USAID
FROM THE AMERICAN PEOPLE

PRIMARY HEALTH
CARE PROJECT

وزارة الصحة
دائـــرة الصحـــة العامـــة

PRIMARY HEALTH CARE CENTERS IN IRAQ QUALITY IMPROVEMENT (QI) PROGRAM DEVELOPED

DISCLAIMER
This guideline has made possible through support provided by the U.S. Agency for International Development (USAID) under Primary Health Care Project in Iraq (PHCPI) implemented by University Research Co,. LLC. This guideline has been developed in Iraq in close collaboration with the Ministry of Health (MoH) in February 27, 2012 Contract AID-267-C-11-00004

Contents

Contents 2
List of Figures 6
List of Tables 3
Acronyms 3
Glossary of Terms 5
1. Introduction 8
1.1 Background 8
1.2 Definitions and Dimensions of Quality and Quality Improvement 8
1.3 Common Elements among QI Models 11
1.4 Iraqi MoH Experience with Quality Management 13
2. Organization for Quality Improvement 14
2.1 The Role of Quality Improvement 15
2.2 Steps involved in Quality Improvement 17
2.3 A framework for measuring primary health care quality improvement 20
2.4 Indicators used for measuring quality improvement in PHC 21
2.5 Timeline for implementing quality improvement interventions 22
2.6 Communication/dissemination 22
3. Improvement Collaborative 22
3.1 Purpose of the Improvement Collaborative 24
3.2 Describing the Relationship between Quality Improvement and the Improvement Collaborative. 25
3.1 Components of an Improvement Collaborative 28
3.1.1 What are we trying to accomplish? 28
3.1.2 How will we know that a change results in an improvement? 29
3.1.3 Who will measure? 29
3.1.4 How will the data be shared? 30
3.1.5 What changes can we make that will result in an improvement? 30
3.1.6 Plan-Do-Study-Act (PDSA) Cycle 31
4. How is an Improvement Collaborative Managed and Supported? 32
4.1 Central Level – Higher Committee for Quality Management 32
4.2 Quality Improvement Working Group 33
4.3 Supervisors/Coaches 35
4.4 What is a QI team? 38
4.5 What is a site? 39
4.6 What is the change (or implementation) package? 40
4.7 What are Action Periods? 42
5. Building Technical Capacity in Staff to Implement Improvement Collaboratives 43
5.1 What are the phases of implementing an Improvement Collaborative? 44
5.1.1Preparation Phase 44
5.1.2 Implementation (Demonstration) Phase 45
5.1. 3 Spread Phase 45
5.2 Strategies to sustain the gains of collaboratives 48
5.3 Costs of a collaborative 48
5.4 Pre-conditions necessary for a collaborative to work 49
6 Appendices 50
7 References 61

List of Tables

Table 1: Provider examples of Quality Concern.....12
Table 2: Patient examples of quality concerns.....13
Table 3: Pillars of Quality Management.....14
Table 4: Maternal/Newborn/Child Health Interventions distributed along Continuum of Care.....26
Table 5: Overview of Improvement Collaborative and Team.....36

List of Figures

Figure 1: Quality Improvement Cycle 15
Figure 2: Key steps involved in developing and implementing a QI program 19
Figure 3: Sequencing and Timing of Events in a collaborative 23
Figure 4. Field Example re: Partograph from Afghanistan..... 30
Figure 5: Model for Improvement 31
Figure 6: Organogram of entities managing and improving quality of PHC services 32
Figure 7: Ecuador; % of deliveries in which Oxytocin was administered to prevent Hemorrhage.....45

List of Appendices

Appendix I. List of indicators.....50
Appendix II. ANC Health Care Improvement Project.....54
Appendix III. Terms of Reference: Working Group - Quality Improvement.....56
Appendix IV. Documentation of Quality Improvement at PHC Center.....57
Appendix V: Example of a flow diagram.....60

Acronyms

AIDS	Acquired immunodeficiency syndrome
AMTSL	Active management of the third stage of labor
BTS	Breakthrough Series
COPE	Client-oriented, provider-efficient
CQI	Continuous quality improvement
EONC	Essential obstetric and newborn care
HCI	Health Care Improvement
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
IHI	Institute for Healthcare Improvement
MoH	Ministry of Health
NGO	Nongovernmental organization
PDSA	Plan, do, study, act
PHCPI	Primary Health Care Project
PHCC	Primary Health Care Center
QA	Quality Assurance
QAP	Quality Assurance Project
QI	Quality improvement
QM	Quality Management
TQM	Total quality management
URC	University Research Co., LLC
US	United States
USAID	United States Agency for International Development

Glossary of Terms

Term	*Definition*
Action period	The time between learning sessions when teams work on improvement at their facility, supported by visits (and sometimes calls) from coaches.
Best practices	A clinical or operational way of doing things (e.g., models of care, organizational arrangements, practices, use of tools or materials,) for which there is proven evidence of good results.
Change package	This usually refers to the initial change package, which is a collection of changes that when implemented will improve quality. All the sites use the same package. Not all collaboratives use this term. The changes can be an evidence-based best practices, guidelines, or redesign of a process. Typically a change package provides basic menu to guide teams' work at the local level. Teams test specific innovative changes in their local setting using the PDSA cycle and adapt them as needed.
Criteria	Medical care criteria are predetermined elements against which aspects of the quality of medical service may be compared.
Enhanced change package	The result of work done in a demonstration. After a change has been tested and its effectiveness in a local setting proved by a team, the change is added to a collection of successful changes by all the teams, which are later synthesized into an improved, tested package of changes that will be spread.
Demonstration collaborative	An improvement collaborative that aims to test/implement the change package, and ends with a clearer better defined package; it is frequently followed by a planned spread phase.
Guideline	Statement by experts that describe recommended or suggested procedures. They systematically describe what the user should or should not do for each step of an activity (such as antenatal care).
Improvement collaborative	A short- to medium-term (12- to 24-month) initiative that develops a structure for teams of providers working to achieve shared aims to communicate with each other on a regular basis.
Indicator	Used to help measure success in achieving high quality health programs – usually numerical measures that help to compare expected results with actual results on a periodic basis.
Input Indicators	Measure of the human and financial resources required to operate a program (includes measures of funds expended, personnel employed and equipment purchased).

Learning Session	A meeting for selected team members and technical and quality improvement experts to learn key changes in the topic area, quality improvement techniques, and share their successful experiences implementing changes and overcoming obstacles. Teams bring their data to share and return to their fellow team members bringing an action plan for the next period and new information
Measurement strategy	A blueprint that describes the collection and management of data that will be used to measure progress and achievement s of improvement in selected areas. It usually includes agreement on a few common indicators related to the desirable outcomes of the change package; a format for collecting data, a plan for data analysis, and an agreement on reporting this data (e.g., run charts).
Norm	Medical care appraisal norms are numerical or statistical measures of usual observed performance.
Outcome	A patient state resulting from the delivery of health care – measures may include physical, psychological, functional (eg. employment) indicators.
Output Indicators	Measure the results of the process
PDSA or Plan-Do-Study-Act Cycle	A method used to test changes to see if they have the desired effect.
Performance Indicators	Usually measure the degree to which desired results and impact have been achieved. Often divided into two levels: intermediate program impact and long-term impact indicators.
Process	What is done to, for, or by (e.g. compliance) the patient.
Process Indicators	Measures progress in accomplishing project activities such as production of training materials, numbers of personnel trained, number of vaccines administered
Protocol	A more precise and detailed plan for a process, such as the management of a clinical condition. Implies a more stringent requirement than a guideline, such as the WHO protocols for diarrhea case management.
Quality Assurance	The processes of planning for quality and includes the development of objectives for quality, setting specifications for standards, actively communicating these, developing indicators, setting thresholds, collecting data to monitor compliance with standards/specifications.
Quality improvement	In healthcare, the process of intentionally making care better in some way (e.g., effectiveness, efficiency, etc.), with the ultimate goal of improving the outcomes for healthcare clients.

Quality indicators	An agreed-upon process or outcome measure that is used to determine degree of adherence to a standard or the level of quality achieved; a measurable variable (or characteristic), usually expressed as numbers (counts), averages, and ratios (proportion or rate).
Run chart	A graphical display of data plotted in some type of order. Also called a trend chart or a time series chart. Easy to construct and simple to interpret thus making it one of the most important methods for communicating and understanding variation.
Scope of a collaborative	The breadth or narrowness of the defined area for improvement, e.g.,: one process of care (AMTSL) vs. a larger system (Essential Obstetric Care).
Spread (or scale-up)	The intentional and methodical expansion of the number and type of people, facilities, or organizations who use the improvements. The theory and application of spread comes from the literature on diffusion of innovation.
Spread collaborative	A collaborative in which there is an intent to expand ("spread") the number of facilities, organizations, or other units using the improvements.
Stakeholder	One who has a share or an interest in the collaborative?
Standard	A statement(s) of professionally developed expressions of the range of acceptable variation from a norm or criterion; also expectations for the inputs, processes, behaviors and outcomes of the health system. (Tells us what we expect to have happen in order to have high quality health services).
Technical skills	Clinical skills
Topic	The area of healthcare improvement.
Wave	A different cohort of teams in a collaborative that started at a different time from other teams and may have joined, but not necessarily, during a spread or scale up phase.

1. Introduction

In Iraq, the reconstruction of basic services, including the health care system, was an essential priority after 2003 where access and utilization of basic health services was a major problem compounded by the poor condition of the infrastructure and ongoing security issues. Thus, a high priority is the introduction of strategies and interventions that will result in improved health outcomes in the shortest possible time. There is a need to develop and implement an effective approach for improving the quality of services that can be expanded quickly and will build the foundation to support the accreditation initiatives being led by the MoH. Efforts toward quality improvement must be mobilized in a timely manner to ensure that Iraqis receive the sustainable care they deserve. The Primary Health Care Project in Iraq (PHCPI) aims to kick start a QI process which addresses factors that are amenable to change in the short- to medium term, by mobilizing Quality Improvement teams at Primary Health Care centers to be agents of change and local health care reform. This approach is aimed to support the efforts at the central level of introducing Quality Management tools, including an assessment process to identify gaps in meeting accreditation standards.

1.1 Background

The Alma-Ata declaration of "health for all by 2000" in 1978[1] followed by the establishment of the Millennium Development Goals in 2000[2] provided an impetus to primary health care. There has been a growing trend worldwide to increase the coverage of health care services, with considerable resources being directed towards the establishment of health care facilities and the development of human resources for health. These health development activities have been carried out mainly through the implementation of primary health care programs in order to overcome the serious deficiencies in the distribution of health resources and improve the availability and accessibility of essential health care services to a country's citizens. The ultimate objective of all these initiatives is to improve health status indicators. This has enabled many countries to create health care systems that serve the basic needs of the population. Countries worldwide are beginning to introduce the concept of quality into their health care systems because focusing on access alone is not sufficient or satisfactory. Patients and providers alike now demand that quality care be provided. Thus, quality improvement in primary health care has a dual function—to improve the quality of care and also to support the development of a service that can take on a wider range of responsibilities.

1.2 Definitions and Dimensions of Quality and Quality Improvement[3]

The following are attributes and dimensions of health care quality that are applicable for a variety of health care facilities including primary health care centers, hospitals and private physician offices. Data collected from several national and international surveys of consumers and providers of quality describe quality in different ways – from the viewpoint of the provider, client, and the payer/purchaser of health care.

---

[1]World Health Organization. 1981. Health for All Series, No. 3.

[2]Millennium Development Goals. www.un.org/millenniumggoals/

[3]Donabedian, A. 1972. Exploration in Quality Assessment and Monitoring. Ann Arbor, MI. Health Administration Press

First, while numerous definitions of quality exist, for the purposes of this guide, quality of care is defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. From the health care provider perspective, quality means doing the right thing (taking the correct action) using evidence-based practice of medicine that is appropriate and effective with a safely and timely implementation and communicated in a respected way to the client. Aspects or dimensions of quality from the provider's perspective typically include three dimensions:

- Decision-making;
- Implementation;
- Communication.

Table 1 below describes examples of quality concerns from the provider perspective with the relevant dimensions of quality.

Table 1: Provider examples of Quality Concern

Provider Quality Concerns		**Aspects of Dimensions of Quality**		
		Decision-Making	**Implementation**	**Communication**
Type of Data to Measure Quality	**Process**	Prescribing cortico-steroids for moderate to severe asthma	Conducting physical exam to check respiratory rate and auscultate chest	Explain side effects of medication
	Outcome	Evaluate/assess if symptoms are reduced	Control of asthma attach incidence; decreased trips to ER by patient.	Patient knows warning signs of worsening illness and when to contact provider

Quality from the patient perspective typically includes doing what matters to the patients. Patient's concerns focus on: 1) satisfaction; 2) having access to the facility and provider within the facility; 3) information and education; 4) communication, respect and caring; and 5) coordination and continuity of care. Table 2 describes examples of the dimensions of quality from the patient perspective.[4]

Table 2. Patient examples of quality concerns

Patient Quality Concerns		**Aspects of Dimensions of Quality**		
		Satisfaction	**Communication**	**Access**
	Process		Did the physician talk	How long was the

[4]Langley, G. et. al. 2009. The Improvement Guide. A Practical Approach to Enhancing Organizational Performance, 2nd Edition. Jossey-Bass.

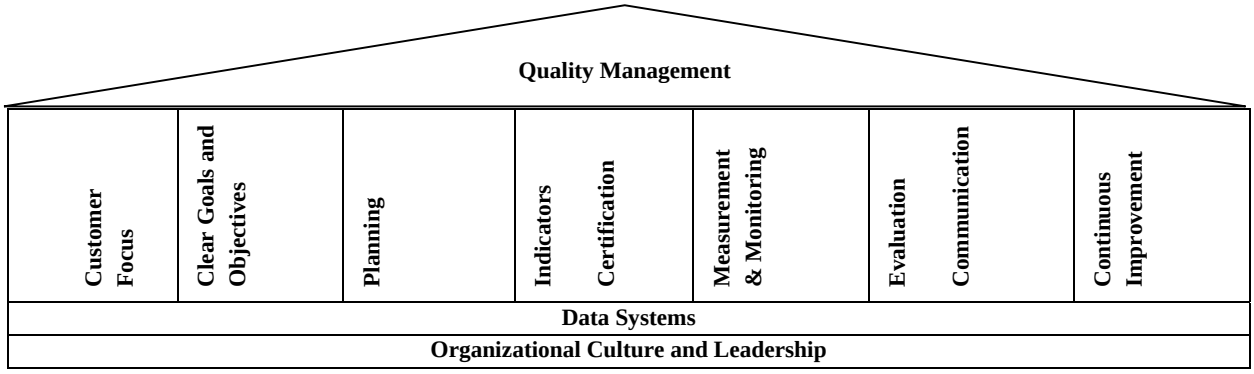
Patient Quality Concerns		Aspects of Dimensions of Quality		
		Satisfaction	**Communication**	**Access**
Type of Data to Measure Quality			in ways that the patient could understand	wait to see the physician?
	Outcome	Satisfaction that asthma systems are reduced. Satisfied that trip to ER is reduced. Satisfied that visit to Health center resulted in decrease in asthma symptoms.	Did the patient understand the instructions for taking the medication prescribed?	Number of patients who received prompt and appropriate treatment for their symptoms related to asthma.

Quality from the purchaser/payer perspective (e.g. the MoH) is concerned with accountability, efficiency (i.e. avoiding waste), and value for the service given the cost. Using the Juran's Prescription[5] for better quality of care, three areas of focus are suggested:

- **Quality planning**: identifying the customers and their needs and expectations and developing a plan to respond (strategic planning).The Central Unit for example Higher Committee of Quality Management is responsible for this area.
- **Quality Control/Assurance**: the process of monitoring and measurement of services provided and attempts to reduce variation in care provided (frequently in the Inspector General's office); and
- **Quality Improvement**: the continual redesign of key healthcare delivery processes (found throughout the levels but includes a strong involvement of facility team and their supervisors at district/DOH level).

[5]Defeo, J. & Juran, J. **Juran's Quality Handbook: The Complete Guide to Performance Excellence**. 2010.

Table 3: The pillars of Quality Management can be depicted below as follows:



1.3 Common Elements among QI Models

Various quality improvement (QI) models have been applied in the health field. Examples include: Client Oriented, Provider-Efficient Services (COPE®),[6] Standards-Based Management and Recognition (SBMR)[7] and the Improvement Collaborative. All of them aim to improve the quality of health care but each have different structures, steps, and terminology. This variation creates an impression of fundamental differences among the models, while in fact a closer look at their core contents reveals many common elements. Tawfik & Segall[8] compared and contrasted eleven models of Quality Improvement in an attempt to find common ground: a place where those who apply different QI models can discuss them with a common language and understanding.

Such common ground can demonstrate the similarity of the various models and hence facilitate dialogue and coordination among partners, donors, and stakeholders who use or support the different models.

They discerned that despite the apparent difference between models, these models share many of the following elements:

- **Standards**: QI models tend to have reference points adopted from international or national guidelines for the particular set of health services addressed by the QI model.
- **Organizational drivers**: These may be persons, teams, and/or organizations that facilitate and support the QI process.

[6]www.engenderhealth.org/pubs/quality/cope.php
[7]http://www.jhpiego.org/media/focuson/sbmr_ovw200702.htm
[8]Tawfik Y, Segall M, Necochea E, and Jacobs T. 2010. Finding Common Ground: Harmonizing the Application of Different Quality Improvement Models in Maternal, Newborn, and Child Health Programs. Technical Report. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC).

- **Situation analysis**: An initial assessment is usually performed to identify deficiencies, deviations, or gaps between the standards and actual practices.
- **Specific aims**: Each model has specific aims or objectives that provide a rationale and targets for what the QI effort is trying to accomplish. In several approaches, specific indicators are identified to help track progress toward reaching the overall goal.
- **Identification and selection of interventions**: QI models include various tools to facilitate the identification and selection of interventions/changes to narrow the performance gap.
- **Implementation of interventions**: QI models apply selected interventions or changes, usually with a deliberate set of steps, to close the gap between standards and actual practices documented during the situation analysis.
- **Monitoring and documentation of results**: QI models include a system to track the differences in performance that result from an intervention over time. Such a system measures selected process indicators and/or health outcomes. Tools for monitoring and documenting QI results include repeated self-assessments, external audits, and run charts.
- **Community involvement**: Since they address MNCH in developing countries, most of the QI models reviewed in this paper include a component to involve the community in activities such as advocacy, awareness-raising, and active participation in the QI process.
- **Incentives and motivation**: Some QI models incorporate financial or non-financial rewards to inspire providers to change and sustain behaviors and practices according to standards.
- **Scale-up plan**: After an intervention has been shown to improve performance according to standards and/or health outcomes, a scale-up plan may be devised to spread the interventions.
- **Sustainability plan**: In addition, a sustainability plan may be undertaken to ensure that not only is the intervention scaled up but also institutionalized, so that health care providers continue to perform according to standards over the long term.

The authors believe that international organizations that develop and promote their own models have a responsibility to coordinate their QI efforts with other partners and provide guidance and orientation to countries in order to clarify the similarities and differences between models and help harmonize application of different models in a country. Organizations implementing QI programs need to be flexible in their approach to QI. They are encouraged to learn about models developed by other organizations, think beyond the terminology that may vary from one QI model to another, and try to see the underlying concept, which may not be very different. Stakeholders implementing QI approaches are encouraged to place special emphasis on monitoring the impact of QI interventions. Measuring process and outcome indicators over time will provide evidence for evaluating whether the QI interventions result in the anticipated change and will guide efforts to modify and improve the interventions.

1.4 Iraqi MoH Experience with Quality Management

Iraq's recognition of the importance of quality predates even the proclamation at Alma-Ata[9]. The MoH organized its services through dispensaries (which have now evolved into health centers) and hospitals. However, the focus has been primarily on the provision of medical services. Thus, this quality approach did not include preventive services and outreach programs (e.g. vaccinations for small pox, typhoid, and BCG; campaigns for the early detection of TB, etc.).

After the Alma Ata conference in 1978, the MoH changed its vision for health care services and reorganized once again its medical services to provide holistic health services. According to WHO's definition, health is a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity.[10] MoH then adopted PHC approaches and concepts to implement this definition. They reorganized health services – changing dispensaries into PHC centers responsible for out-patient service activities within a delineated catchment area. The approach for quality then included identifying performance targets for each PHC center, expanding preventive services offered in coordination with curative services, and referral to nearby hospitals and tertiary hospitals.

In 1997, a program for quality assurance was established through the assistance of WHO consultant Dr. Samie Jadhullah from Egypt. Dr. Mohammed Jaber, the chairperson for the program, conducted a SWOT analysis on quality of health services. The program began by disseminating quality education to the medical, health and nursing staff, and other personnel within the MoH at both central and peripheral levels. The program was implemented throughout Iraq and focused on training courses to strengthen managerial and supervisory skills for health personnel in all governorates – thus building both personnel and institutional capacity to implement quality assurance.

As the program scaled up, it was agreed to create a quality assurance section within the MoH Directorate of Preventive Health. The rationale was that it would serve as the starting point and lead to the creation of quality assurance units in each governorate. These units were finally established in 2011.

The Quality Assurance Section worked in partnership with the Directorate of Inspection, with both departments recognizing that the domain of quality assurance includes performance assessment as an important aspect within the quality cycle and considers inspection as one approach towards improvement of health services and not restricted to an approach for punishment.

From 2001 to 2009, the Quality Assurance Section in the Directorate was the primary entity to focus on quality, in conjunction with the Department of Performance Assessment in the Directorate of the General Inspector, and with support from the DOHs. In 2010, sections were established in other directorates at the central level of the MoH, along with sections for Performance Assessment. There was a growing recognition of the need for and importance of quality management to resolve health problems and to facilitate the reform and modernization of the Iraqi health system.

---

[9]Declaration of Alma Ata International Conference on Primary Health Care, Alma Ata, USSR, 6-12 September, 1978.

[10]WHO Collaborating Centre for Health Promotion, University of Sydney, Australia, January 1989, p.1. & Ottawa Charter for Health Promotion. WHO, Geneva, 1986.

A health system reform conference was held June 20-21, 2008. Participants reaffirmed the importance of quality management and the need to transform the performance assessment sections in MoH both centrally and peripherally into quality management sections including the original section of quality assurance in the Directorate of Public Health. The name of the Quality Assurance Section was changed to the Quality Management Section.

These changes occurred simultaneously with the establishment of the Higher Committee for Quality Management in MoH, headed by Administrative Deputy of Minister of Health and the Deputy DG of the Directorate of Public Health. Since the establishment of the Higher Committee for Quality Management, several activities have been implemented that include launching a symposium for quality management and the first conference on health quality. These activities were conducted under the motto that "quality is the best investment for health".

Following the health system reform conference, a Higher Committee for Accreditation of Health Institutions was established headed by the Senior Deputy of the Minister of Health. This committee functions in coordination with the Higher Committee for Accreditation of Medical Colleges in the Ministry of Higher Education and Scientific Research. The International Medical Corps (IMC) with international experts provided support to the Higher Committee for Accreditation of Health Institutions. This resulted in the Higher Committee conducting several conferences and meetings and developing two sets of accreditation standards: one for accrediting PHC centers and the other for accrediting hospitals. These standards were adapted from standards issued by the Arab League and Egyptian and American Standards. These guidelines have been recommended and recognized by the same editors of Arab league guidelines for accreditation and are felt to be effective for accreditation of Iraqi health facilities. They contain pragmatic standards of preventive and curative levels and include an important new issue concerned with patients and beneficiaries rights.

Simultaneously, as the need for quality management was recognized at the governmental level, the National Committee for Quality was established with representatives from all related ministries and bodies. The MoH is an active member on this committee. The National Committee for Quality is headed by the chairperson of the Central Organization for Standardization and Quality Control (COSQC) in the Ministry of Planning. The purpose of the committee is to apply quality management strategies and approaches in all ministries and to ensure integration between ministries. The role of the MoH in this committee is important given the strategic approach of the Ministry of Health to focus on "health for all" with intersectional collaboration and partnership with the community. It is believed that that these approaches cannot be fulfilled unless there is an energetic application of TQM & CQI with the need to scale up the activities of National Committee for Quality.

2. Organization for Quality Improvement

It is important that we disseminate the main ideas, scope and concept of quality and quality improvement to the people with whom we are dealing in the primary health care setting – that is, building a culture of quality from the **bottom up** – facility team, district, DOH (Provincial) levels to meet the efforts of the central level to manage quality. The strategy to improve quality includes: 1) agreeing upon the goal/aim of the quality improvement program; 2) its mission and vision; and 3) involving and training staff at the

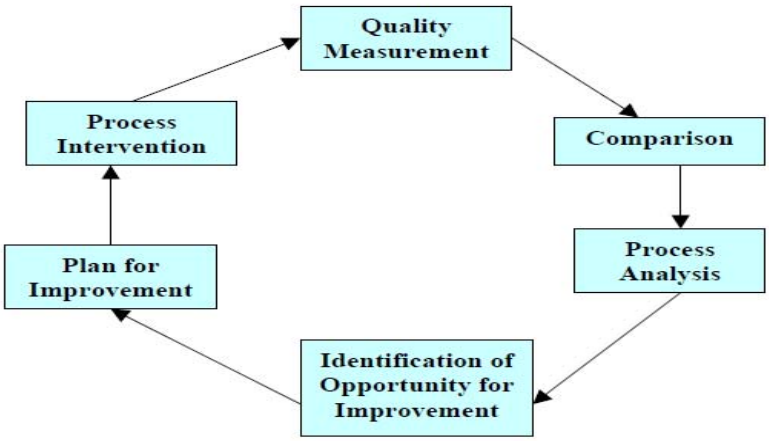
facility level and their supervisors in order to promote effective participation. In order to guarantee high quality services, there needs to be careful planning.

First of all, the managers at the central level (e.g. the Higher Committee for Quality Management) need to know what the current situation is, the prevailing health conditions, and available human resources for this effort.

The second step is to describe clearly the goal and shift in the current situation. This involves managers at the central level articulating a clear future vision, drafting a mission statement, and put forward its goals and strategy to achieve these goals. Having all these elements clearly in mind, the central body should then formulate the organizational structure for QI. The structure in Iraq for improving quality at the different levels related to Primary Health Care is depicted in Figure 5 (Section 4 of this document. The structure has been developed to meet the vision and characteristics of the MoH in Iraq and relies on both an effective and committed group at the central level and also effective structures at the DOH, District, and facility levels using an Improvement Collaborative approach.

The act of measuring changes, implementing them and monitoring their effect is called a "quality cycle." Its components are "Plan, Do, Study, Act." It is suggested that MoH follow this cycle in order to implement quality improvements in Iraq's primary health care sector. As Figure 1 shows, each step is dependent and predicated on the preceding.

Figure 1: Quality Improvement Cycle



2.1 The Role of Quality Improvement

The traditional approach to improving the quality of health care has been to apply evidence-based guidelines, conduct trainings in the new procedures or processes, and introduce job aids, materials, equipment, supervision, and regulation, such as licensing and accreditation. Modern quality improvement methods added teamwork and coaching, process analysis, monitoring of results data, and a focus on clients. Improvement collaboratives are a method of improving quality that add the features of multiple

teams working on common objectives, shared learning, friendly competition, and rapid scale-up to new facilities.

Quality management, or quality improvement, originated in engineering and manufacturing where systems theory, statistical process control, and continuous quality improvement were combined with general management methods. Quality improvement has been adopted and adapted by health care systems in many developed and developing countries. Improving quality entails examining processes in order to improve them. Quality improvement is guided by principles of teamwork, a focus on the client, systems and processes, and measurement of results. The focus on teamwork recognizes that team members bring valuable insights regarding the process to be improved because of their knowledge of and experience in it, and are more likely to implement improvements they helped to develop. The focus on systems and processes recognizes that providers must understand the service system and its key service processes in order to improve them; resolving the problem of unclear, redundant, or incomplete processes or systems yields better results than placing blame on individuals. Focus on the client emphasizes that services should be designed so as to meet the needs and expectations of clients and community. Focus on measurement means that data are needed to analyze processes, identify problems, and measure performance. This focus promotes taking action based on facts rather than on assumptions. It is good to remember that one of the simplest definitions of quality, "Doing the right thing, right, the first time" illustrates two major components of care: content (doing the right thing) and process (doing it right). Quality improvement activities include defining quality in terms of evidence based guidelines, measuring quality indicators based on those guidelines, and improving quality wherever gaps are found. The healthcare delivery system strives to meet these guidelines in order for its patients to achieve optimum health gains. Quality improvement uses various means to close the gap between the current and expected levels of quality; using management tools and principles to understand and address system deficiencies. Approaches to conducting quality improvement activities are numerous and lie along a continuum from simple to complex. These approaches include individual problem solving, rapid team problem solving, systematic team problem solving, process improvement, and shared learning through collaborative improvement.

Quality improvement is intended to be managed by the health program staff, both managers and providers. This approach is supported by QI teams, which are usually self-directed groups of facility-based health workers. The teams are developed and supported by supervisors/coaches who provide them with both formal and just-in-time training in QI—the process, tools, and techniques — and on team process matters such as: the functions and roles of team members; communication skills (e.g., active listening, giving and receiving feedback); decision making; planning, conducting, and documenting team meetings; and presenting team results to managers. Teams use the QI process to decide what they want to improve, and are thus empowered to improve their work conditions and outcomes, often making systemic transformations to their work environment. QI team members are selected for their involvement in, and expert knowledge of, the process being improved or other special skills. This combination of knowledge and skills gives the team the expertise that enables them to deal with complex systems and processes. Often a QI team is wholly responsible for the process they are improving (process improvement teams). Such teams can continually seek opportunities for improvement, and design, test, and implement solutions without requiring higher authority to initiate the effort.

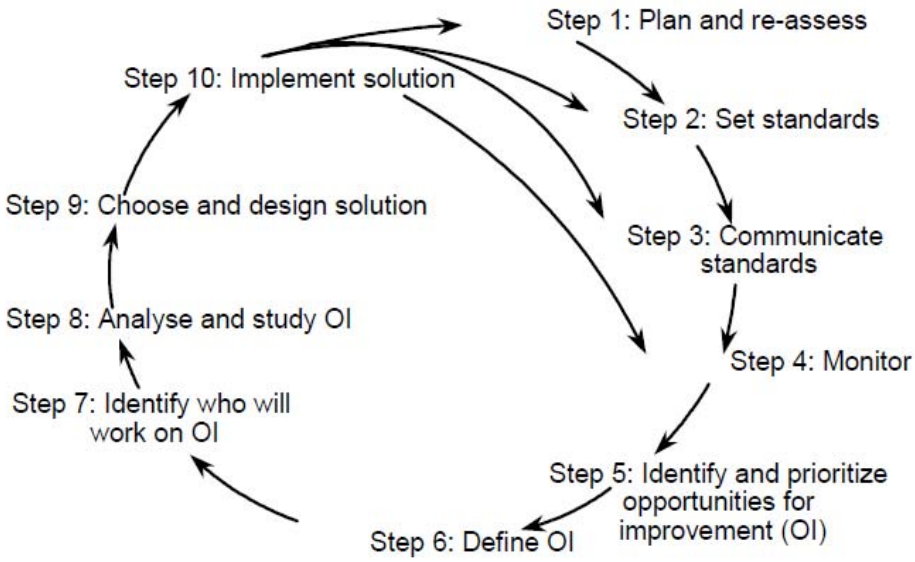
2.2 Steps involved in Quality Improvement

The following are key steps involved in developing and implementing a QI program:

- Create an awareness/understanding about quality issues among policy makers, program managers, and service providers.
- Identify multidisciplinary Quality teams at PHC facility, district, and province/governorate levels that will be responsible for the QI initiatives.
- Identify a topic for improvement by review of health statistics, national health plan or "walk through" of facilities.
- Conduct a baseline assessment to assess gaps and to identify opportunities for improvement and confirm topics identified.
- Identify indicators to be tracked to determine progress in resolving performance gap (consider data collected at facility level as opposed to introducing new data collection efforts).
- Identify/Develop interventions that can assist in closing quality gaps (a change package to be tested).
- Develop an implementation plan: who, how, when, where to implement the interventions
- Implement interventions that typically include the following:
    - Improvement of knowledge/skills by conducting refresher courses/in-service training.
    - Increasing efficiency/effectiveness by process redesign, integration of services.
    - Increasing provider compliance with guidelines through provision/training on algorithms, job aids.
    - Increase compliance through feedback - Self/supervisory assessments.
    - Track performance through monitoring/evaluation of indicators, run charts and review by Quality teams with comparison between teams.
- Conduct periodic (monthly/quarterly) review of performance using Plan, Do, Study, Act (PDSA) cycle
    - Review results in group/team setting – all participating institutions come together and share the results. The training room in the Model PHC could be used at the District level with QI team from participating clinics in that district. If the initiative includes a linkage with the hospital (e.g. testing a revised referral system) then be sure to include the district hospital. The meetings can be conducted quarterly when assessments are done, previous results are discussed and the improvement package is changed according to need. Annual meetings inviting all facilities to share results and a summary of their experience are an

excellent way of communicating the findings and stimulating others in the sharing process.

- Adjust interventions through problem analysis.
- Identify additional problems that may require improvement interventions.



Adapted from the USAID QA Project

Figure 2: Key steps involved in developing and implementing a QI program

PHCPI is committed to working with the MoH to improve the quality of PHC services and recommend the Improvement Collaborative as an approach to rapidly improve health care and scale up quality services in Iraq.

[9] http://www.hciproject.org/improvement_tools/improvement_collaboratives

[10]Tawfik Y, Segall M, Necochea E, and Jacobs T. 2010. Finding Common Ground: Harmonizing the Application of Different Quality Improvement Models in Maternal, Newborn, and Child Health Programs. *Technical Report*. Published by the USAID

[11]Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC).

12Massoud, RM et al. 2001. A Modern Paradigm for Improving Healthcare Quality. QA Monograph Series 1(1) Bethesda, MD: U.S. Agency for International Development (USAID) by the Quality Assurance Project.

2.3 A framework for measuring primary health care quality improvement

Quality is measurable. A system is usually made up of three components: input, process and output. Quality of input (structure) can be measured. This includes the quality of personnel, supplies, equipment and physical resources. The quality process is also measurable. Diagnostic, therapeutic and patient care procedures and protocols can all be measured and quantified. The same is true for system outcomes or results. They too are measurable. For example, infection rates, morbidity and mortality rates, as well as patient and employee satisfaction are all outcome measures and are all measurable variables. Therefore the system components of inputs, processes and outcomes have certain quality characteristics that are measurable and are important in quantifying the quality of a system. A medical outcomes study by RAND/UCLA (one of the earliest comprehensive studies) used the following conceptual framework to measure quality of care.

Structure	**Process**	**Outcomes**
System Characteristics • Organization • Specialty mix • Financial Incentive • Workload • Access/convenience *Provider Characteristics* • Age • Gender • Specialty Training • Economic Incentive • Beliefs/ attitude • Preference • Job satisfaction *Patient Characteristics* • Age • Gender • Diagnosis and condition • Severity • Comorbid conditions • Health habits • Beliefs/attitude • Preference	*Technical Style* • Visits • Medications • Referrals • Test ordering • Hospitalization • Expenditures • Continuity of care • Coordination *Interpersonal style* • Interpersonal manner • Patient participation • Counseling • Communication level	*Clinical endpoints* • Symptoms and signs • Laboratory value • Death Functional status • Physical • Mental • Social • Role *General well-being* • Health perception • Energy/fatigues • Pain • Life satisfaction *Satisfaction with care* • Access • Convenience • Financial coverage • Quality • general

2.4 Indicators used for measuring quality improvement in PHC

Over the years, a variety of methods have been used to evaluate the quality of health care. These methods include:

- Record review and audit.
- Tracer conditions-either retrospective or concurrent.
- Interviews with health care providers.
- Written and oral examinations.
- Interviews and focus groups with populations.
- Interviews and focus groups with patients.
- Direct observation of delivery of health services.
- Surrogate patients.
- Retrospective review of adverse outcomes.

In most developed countries, service quality is measured by reviewing medical and other written records. However, this approach has not proved useful in environments where medical records are incomplete, inconsistent or even non-existent. Therefore, the intention of using indicators to improve quality is to implement changes. There are a number of different indicator sets that may be used at different times, depending on what is to be measured and for whom measures will be reported. Appendix 1 delineates indicators which are appropriate measures of quality in PHC and which fit within the larger categories of structure, process, and outcome. Lavizzo-Mourey (1994) highlights the characteristics of an ideal set of quality indicators, many of which can be applied to PHC. Indicators should adhere to the following criteria:

- **Important**: Primary care practices or treatments measured should make an impact on the health of the individual and/or population or nation.
- **Comprehensive**: Taken together, measures should allow for a complete assessment of PHC services and be applicable to all age groups and special populations.
- **Concise**: so that all stakeholders parties have the time to read and analyze measures
- **Independent of one another**: Measures that are dependent, connected or associated with one another will produce an inaccurate picture of PHC.
- **Reliable**: The measure must be exact and must "hit the nail on the head every time."
- **Valid**: Indicators must measure what they claim to measure.
- **Vetted:** Untested measures, no matter how sensible, are dangerous.
- **Burdenless**: If an indicator requires a large collection of data, manipulation or is costly, it is ineffective.
- **Interpretable**: Consumers, patients and providers at all levels of PHC must be able to understand the measures.

2.5 Timeline for implementing quality improvement interventions

Implementation Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Identify facilities in the district	■											
Conduct first meeting with facilities to identify priority services	■											
Conduct QA training for the teams		■										
Conduct baseline surveys in facilities		■										
Analyze data and identify/prioritize problems		■										
Develop/finalize change package/interventions with support of experts		■	■									
Begin implementing interventions/change package			■									
PDSA/Monitor			■	■	■	■	■	■	■	■	■	■
Provide support to teams at facility and district level			■	■	■	■	■	■	■	■	■	■
Conduct quarterly review sessions to provide training and guidance			■			■			■			■
Conduct community outreach to generate support				■	■	■	■	■	■	■	■	■
Evaluate QI interventions											■	
Disseminate results (ongoing)				■	■	■	■	■	■	■	■	■

2.6 Communication/dissemination

Although each facility is responsible for its own improvement intervention, they remain in continuous contact with other facilities in the improvement project. This communication can place through face-to-face meetings (monthly or quarterly), exchange of information through supervisors among facilities, telephone calls, and site visits to other facilities participating in the improvement program.

3. Improvement Collaborative

The **Improvement Collaborative** was first developed in the mid-1990s by the Institute for Healthcare Improvement (IHI) in Boston, Massachusetts, USA. Its purpose was to address situations in which there is a large gap between existing practices and the desired quality of care or outcomes, and when organizations were not achieving the hoped-for level of improvement by training teams using traditional approaches for improving quality[11]. This innovative idea, called The Breakthrough Series, was to facilitate structured learning and sharing among the representatives of many organizations, alternating with periods of action when they would engage in system-level changes leading to dramatic improvements in care. They enlisted experts in specific clinical areas and experts in quality improvement who could help organizations select, test, and implement changes in processes of care. The organizations committed to working over a period of months, alternating between "Learning Sessions" in which representatives from the participating organizations would meet to learn about the topic and from each other and plan changes, after which they would return to their home organizations for an "Action Period" where they would test those changes in clinical settings. Since then, IHI has supported thousands of teams in applying this methodology in the U.S and abroad. The USAID-funded Health Care Improvement Project (HCI) is expanding the use of collaborative improvement and learning in developing and middle income countries worldwide. University Research Co., LLC (URC) has pioneered the use of this approach in developing countries, having implemented over 80 collaboratives in 16 countries since

[11] www.ihi.org

2000.[12] An Improvement Collaborative is an organized effort of shared learning by a network of sites or teams to develop a proven set of interventions and/or changes to improve a specific health service or outcome. Individual teams at different facilities rapidly test the effect of different interventions, to make them operationally feasible, and share them to come up with the best changes and interventions to achieve the desired improvement. This is frequently called a Best Practice, defined as a clinical or operational way of doing things for which there is proven evidence of good results. Each team may adapt the changes to its local situation for institutionalizing their implementation in its health facility or site to achieve lasting improvement. During the collaborative, teams from different health facilities come together in "Learning Sessions" to share their improvement ideas (interventions and changes to achieve the desired improvement) and results they have achieved. The intervals between Learning Sessions are known as "Action Periods" and are periods of intense activity as teams implement changes and measure their results.

Typically, there are two phases of an Improvement Collaborative: demonstration and spread. Demonstration collaboratives are often carried out within 18 to 24 months. The time period for spread collaboratives depends on many factors, including the type of spread strategy (to be discussed later), the number of sites being spread to, and the number and complexity of the interventions being spread. This is elaborated on in Section 5.1.2 and 5.1.3.

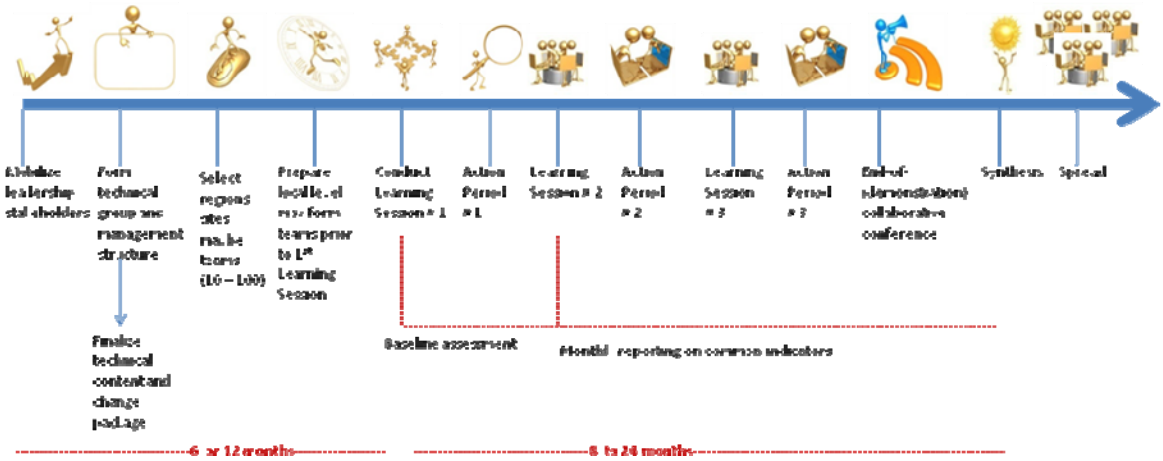


Figure 3: Sequencing and Timing of Events in a collaborative

Example of events for a collaborative is pictured in the figure above. An Improvement Collaborative starts with a desire to improve a specific service or solve a specific problem. In the area of Primary Health Care, the Improvement Collaborative approach can be employed to address any service within the continuum of care. Below is an illustration of the continuum of care for maternal, neonatal, and child health at the district level.[13] This bird's-eye view can assist in narrowing the focus when selecting a topic or aim. It can be effective to focus on one set of problems, such as the implementation of Active Management of the Third Stage of Labor (AMTSL), and then spread the learning, completing the

[12] Franco et. al. 2009.

[13] www.who.int/pmnch/about/continuum_of_care/en/index.html

collaborative in a shorter period, before moving on to other problems, rather than trying to address a very broad topic, such all of essential obstetric and neonatal care (EONC) over a longer time period.

Table 4: Maternal/Newborn/Child Health Interventions distributed along Continuum of Care

QI of Maternal/Newborn/Child Health Continuum of Care at District Level*		
Community	**Primary Health Care**	**District Level**
-Mobilize community groups participate in BCC campaigns	- ANC (birth preparedness) tetanus toxoid - Safe birth with skilled attendance (clean delivery , partograph, infection prevention, Active Management of third stage of labor (AMSTL) newborn resuscitation, referral	- Emergency obstetric & Newborn care - Special care for low birth weight infants - Management of severe illness of newborn (dehydration, fever)
-Safe Birth (skilled attendant, clean delivery, appropriate & timely referral) -Postpartum (cord care, thermal care, -Breastfeeding, referral, birth spacing) -Child care – healthy child programs	-Postpartum (cord care, thermal care, breastfeeding, referral, birth spacing, treatment of puerperal infection of mother)	
*Interventions derived from MoH/Iraq Package of Essential Health Services		

Improvement Collaboratives are generally conducted in two successive phases. They begin with a demonstration phase, often called a demonstration collaborative, which is devoted to discovering and testing new ways to overcome challenges in implementing new processes of care and determining which changes improve outcomes most effectively. The demonstration collaborative is often followed by a second phase known as a spread collaborative, to disseminate or scale up the strategies for improvement from the initial places to the rest of the health system.

3.1 Purpose of the Improvement Collaborative

The Improvement Collaborative has proven successful and practical in improving the effectiveness of health services in many countries and shall be tested throughout Iraq on a large scale. This framework and orientation guide provides an orientation to health professionals, particularly supervisors and health center managers, in Iraq who would like to use this approach to increase the effectiveness of primary health care (PHC) services and programs provided by different types of PHC centers. This guide illustrates the structure, organization, steps and processes for designing, implementing, and measuring the impact of collaborative improvement and learning. USAID/PHCPI will help provincial health offices to initiate Collaboratives to close systemic gaps in each province. Focus topics will be solicited from partner PHCs in those provinces and build the first collaboratives around the most pressing topics identified (improving antenatal care for pregnant women, improving care of sick babies, etc.), ensuring that there is at least one topic from each component to enable us to demonstrate a quick win in each area. URC has demonstrated success in applying the Improvement Collaboratives technique to target positive changes in both clinical and management systems at the facility and district/provincial levels. The project goal with MoH will be to sponsor Improvement Collaboratives that focus on the full range of PHC issues, both clinical and management related.

USAID/PHCPI will develop district-level Improvement Collaboratives to unite stakeholders around the specific goal of reaching the targets for MDGs 4 and 5 through zero tolerance for maternal and newborn deaths. Their work to improve quality of care and strengthen referral processes will also require attention

to facility management, data to monitor progress (for example through the Maternal Prenatal Audit), increased community awareness of when to seek MNH care and from which facility, and the availability of commodities for obstetric and newborn care. The team approach combined with self-identified improvements and the use of data to monitor progress toward specific targets will increase ownership and build self-reliance within each district.

At the facilities, USAID/PHCPI will establish QI teams to address specific gaps that are resulting in poor outcomes. These teams will work on improving safety, closing gaps in skills by coordinating with district health offices to ensure timely training of staff, as well as monitoring of health outcomes. These teams will also work on improving patient education on several health issues, for example, hand washing and hygiene.

The dynamics of scaling up are significantly strengthened by this approach. Having jointly identified the best solutions through a methodical, evidence-based approach, Collaborative members all feel strong ownership for those solutions and have strong motivation to implement them. Once a Collaborative identifies a strong solution to a particular problem, the news is typically shared widely to ensure that non-participating facilities also become aware of the new approach. Non-participating facilities tend to be much more likely to adopt the new approaches because data that exist showing success and because the solutions are developed organically and tend to be deeply tailored to the specific country and regional context. Each Collaborative sponsored will be invited to share their insights, lessons learned, and emerging best practices at an annual PHC Summit.

Furthermore, in order to develop an expanded PHC QI program in Iraq, the PHCPI team will consult with the MoH QA Section, COSQC, and other relevant partners to review current quality policies and practices applied at PHC clinics in Iraq. The team will work together with MoH and other stakeholders to update quality practices and tools to state-of-the-art QI principles and assist the MoH to introduce the PHC QI Program into practice through both clinic-based QI teams and multi-clinic Improvement Collaboratives.

- Decide what priority problem to work on.
- Walk through the facility as a patient/client.
- Conduct a meeting with the participating teams to formulate a shared vision and problem statement.
- Conduct a rapid baseline assessment to identify services that need improvements.
- Develop an improvement package.
- Define measures and outcomes.
- Conduct review sessions every three months.
- Prepare a Storyboard highlighting the program objectives, the interventions, and the results produced.

3.2 Describing the Relationship between Quality Improvement and the Improvement Collaborative

There are many traditional ways to improve quality, including the introduction of standards, training, and supervision. Modern methods include quality improvement models that focus on teamwork, systems and processes, client focus, testing and measuring changes, and have been used in developing country settings for many years. These remain the basis of improvement. Teams in facilities and communities trying to

improve the care they provide to clients work to understand current systems for delivering care and then use objective measures to change their system into one better able to meet the needs of the clients.

Structures to help staff work together as teams are new to the health sector in Iraq; therefore teams in Iraq will need support. They need support from managers in their facility and from trained supervisors at the District and DOH level as well as support from the ministry officials at the central level.

Improvement Collaboratives build on existing structures to support teams and provide a structure for teams to communicate with and learn from each other so that good ideas generated by one team can be rapidly spread throughout an organization.

In the international arena, before the introduction of Improvement Collaboratives, quality improvement had been occurring within individual facilities by individual groups, and focused on improving quality within their facility or department but not necessarily sharing their results with others. While the Improvement Collaborative approach also uses established QI tools, it adds a new dimension-- it harnesses the power of several QI teams, located at different health facilities, working to achieve the same improvement aim and sharing their results and learning from each other. This feature is one of the main advantages of the improvement collaborative approach. The teams may implement an evidence-based (e.g., based on reviews of scientific evidence) clinical guideline or management practice with all the challenges that introducing change entails; however, when all the teams share their innovative solutions to the challenges, each individual team does not have to rely on only itself to find possible solutions; instead all the teams share what they learn during their improvement efforts. Another advantage of the approach is its emphasis on spread or scale-up that can occur at a faster pace. The reason for accelerating the scale of improvement is due to several factors, including their focus on systematically gathering and consolidating information on what changes worked best across teams, leading to improvements; sharing what was learned by the initial QI teams to new locations; and using some of the experienced implementers from the initial teams to act as champions for the new practices and even coaching and supporting the new teams.

The lessons learned by teams in initial improvement efforts can then be passed on to new teams working on these issues. As can be seen in some aggregated run charts from collaboratives after the intervention was spread from initial sites to additional sites, one can see that later teams often reach the same level of performance as the initial teams at a faster rate. Reasons for this accelerated pace of achievement by teams in the second phase are most likely attained because the demonstration sites have developed innovations that have already been intentionally spread to or picked up by new sites allowing them to reach the achievement level faster.

Engaging QI teams in multiple sites, all working to achieve a common goal, and enabling them to share what they learned has been found to leverage the power of the quality improvement model to raise health care quality across many sites and even at national scale.

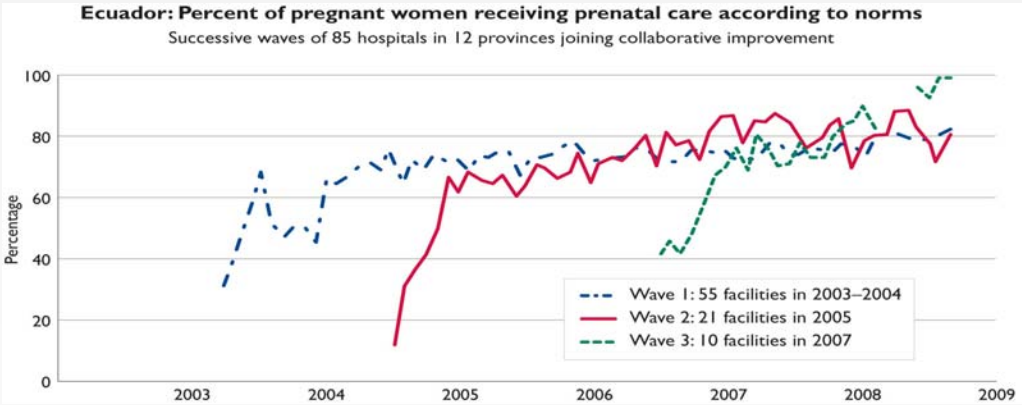
Another factor that has not been shown by research but is generally accepted to be true is that those supporting the health center teams (typically supervisors) who receive training in quality improvement, coaching, and working in teams, are better able to assist teams to make changes in how they deliver care and to facilitate sharing between sites.

In most cases, staff and coaches are new at the beginning of a demonstration phase and then have a year or two of experience by the time of expansion.

When is an improvement collaborative the right approach to improving health care delivery?
When:

- A significant gap exists between the current status and desired health outcomes and such gap is common to a large number of health facilities.
- Evidence exists for standards, care models, or organizational models that have been shown to improve outcomes: i.e., what works to address the quality gap is known;
- It is possible, with available resources, for health workers to put the implementation package into practice; and
- Organizational leadership support exists for introducing changes and spreading them beyond the initial sites.

With USAID technical support, Ecuador's Ministry of Health (MOH) initiated an improvement collaborative in 2003 to address essential obstetric care. The collaborative started with eight sites and within the first year grew to 55, all working on improving antenatal and delivery care. Quality improvement teams were formed and trained to monitor indicators of quality and test changes to ensure that evidence-based practices were routinely implemented. In about a year, the percentage of prenatal visits conducted according to standards began to stabilize near 80%.



This first wave of implementation was followed in 2005 by a second wave of sites that joined the collaborative and had the advantage of the learning that had been generated by the first wave. These second-wave sites received less support from external technical advisors and more from the MOH. In 2007, without external technical support, MOH staff initiated another wave of improvement activities in 10 new sites. As the lines show, using learning from the previous wave, each successive wave achieved rapid scale-up of best practices. By the end of 2007, all 86 facilities in 12 provinces were reporting data and showing consistent results, with most women receiving care according to standards. In 2007, the MOH scaled up the AMTSL component to all remaining provinces, and as of this writing (2009), the Ministry is expanding the entire essential obstetric and neonatal package to five more provinces with its own funding.

[15]USAID Health Care Improvement Project. 2008. The Improvement Collaborative: An Approach to Rapidly Improve Health Care and Scale Up Quality Services. USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC).

3.1 Components of an Improvement Collaborative

While each Improvement Collaborative may vary slightly depending on the unique aspects of the setting or clinical condition addressed, they are defined by some common essential components. The improvement collaborative and shared learning often uses the approach of PDSA described earlier to test the proposed and track the effectiveness of the proposed interventions.

3.1.1 What are we trying to accomplish?

The answer to this question requires setting aims. The aim and criteria for an aim include a measurable, time-specific description of the accomplishments expected to be made from improvement efforts and the specific population (i.e., post-partum mothers, neonates, etc.) that will be affected (Dick and Hiltebeitel, 2009).

One would choose to launch an improvement effort when there is a significant gap between the current health system performance and the desired performance. The focus of a collaborative, and thus, its aim, may be selected based on the same criteria as any quality improvement topic, most commonly because a health and well, being of a population are in danger or already being damaged, as identified by data.

Usually the focus of a collaborative is selected by the person(s) who initiated the collaborative, such as a policy maker or high level decision maker in the organization; however, the details of the Aim statement may be written by a management team who would then submit it to the high-level decision maker for approval.

FIELD EXAMPLE
Aim (Neonatal Care)

Goal: We will improve our neonatal care system by improving immediate care for neonates who deliver in PHCs with a Delivery Room or in the community (home-delivery) in selected districts through teamwork and introduction of new practices such that within 12 months*:

- 80% of newborns will have initiated immediate breastfeeding following delivery
- Neonatal infection rate will be reduced to 5%
- 95% of low birth-weight (LBW) infants will receive guidance and will implement Kangaroo Mother Care following delivery.
- 100% of new mothers will receive Vitamin A following delivery.
- 100% of post-partum mothers will be offered a family planning method at their first postpartum visit.

If baseline values are known, it is helpful to include them, e.g., reduce neonatal infection rate from 30% to 5%.

Illustration of Criteria to Include in an Aim

Accomplishments: immediate breastfeeding, reduced infection rate, new mothers receive Vitamin A, etc

Measurable: 80%, 5%, 95%, etc.

Time-specific: 12 months

Specific population: Mothers who deliver at home or in PHCs with a delivery room

3.1.2 How will we know that a change results in an improvement?

Another way of asking this question is, "what will we measure?" Teams use quantitative measures to determine if a specific change is an improvement.

One can answer this question by saying: We will measure our progress using common (i.e., shared) indicators. In Appendix II, there is a list of indicators for an Improvement Collaborative designed to increase access to and quality of ANC services provided to pregnant women in a rural district in Kenya. The indicators were selected based on those measures that were being collected routinely by the health centers with the need to add only a few new measures (primarily in the area of community collaboration).

FIELD EXAMPLE

Indicators:

- Percent of women delivering at home or in the PHC with a delivery room practicing immediate (within one-half to one hour) breast feeding
- Percent of infection in newborns
- Percent of mothers of low birth weight (LBW) infants initiating kangaroo mother care (KMC) following delivery
- Percent of eligible postpartum mothers receiving the recommended dose of Vitamin A before discharge from the PHC with a delivery room or before TBA leaves the home of the woman recently delivered.
- Percent of postpartum women receiving a contraceptive at first post-partum visit.

3.1.3 Who will measure?

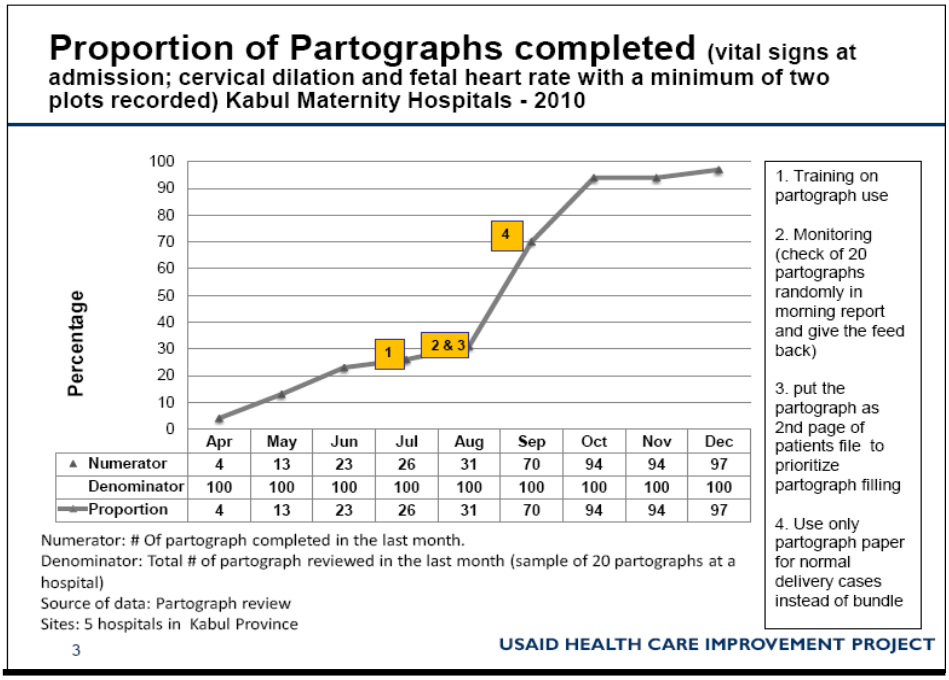
Each QI team will assign a team member the role of collecting data on their indicators monthly. The data will be checked for quality by the QI supervisor or other appointed person. The data will be delivered and aggregated in a central location (at the district or provincial level) by a member of the team who will be selected to manage the collaborative, usually comprising a director, coordinator, and support staff.

3.1.4 How will the data be shared?

The data is key to showing improvement trends over time. Making the distinction between what data are used for and by who is important. Data which serve advocacy or accountability or advocacy functions should be brought to the attention of key officials and policy makers. It is important to keep high-level officials and policy makers updated with improvement data to garner their support for the initiative. There are also data that are used by the site teams for management, but not necessarily shared with high level officials. Data are also important for the collaborative management team, so they can know where to intervene if an individual team in the collaborative is not showing progress.

In order to be able to quickly see trends or the lack of trends, data are best displayed as run charts. The individual data for key outcomes and key processes for each team will help each team see its progress. For individual site quality improvement teams showing where they fall in relation to the other teams provides motivation and feedback. Data aggregated by indicator for all the teams makes it easy for collaborative management to see the overall progress.

Figure 4. Field Example re: Partograph from Afghanistan



3.1.5 What changes can we make that will result in an improvement?

This is where the creativity of the teams is crucial. Teams get ideas from many sources. For original ideas to generate changes that they think are likely to result in improvement, teams use a variety of methods to encourage creative thinking, such as brainstorming. Sometimes teams are exposed to ideas by attending Learning Sessions and other meetings; they may hear of them during visits from their supervisors/coaches who learned about them from other teams; sometimes via telephone calls and sharing of documents during site visits. An ingenious way some teams get ideas is by getting the participation of patients and other providers who generate additional changes to be tested.

3.1.6 Plan-Do-Study-Act (PDSA) Cycle

All improvements are the result of making some change; however, not all changes result in improvement. Therefore, changes and innovations generated by teams are tested using a method called the PDSA cycle, which follows the logic of the scientific method:

- (Plan)Teams plan for a change or a test and plan to collect data on it
- (Do) they carry out the change or test (on a small scale first), collect some data and begin analysis
- (Study) they observe the results by completing the data analysis and summarizing what was learned
- (Act) they act on what they learn (Are we ready to make a change? Plan for the next cycle) by asking the following questions:
    - Is the resulting change sufficiently large? If yes, adopt it more widely.
    - Is the resulting change positive, but not a large effect? If so, don't discard it, but change something about it to see if you can make it have a better outcome.
    - Is there no real change in the result? If so, discard this idea.

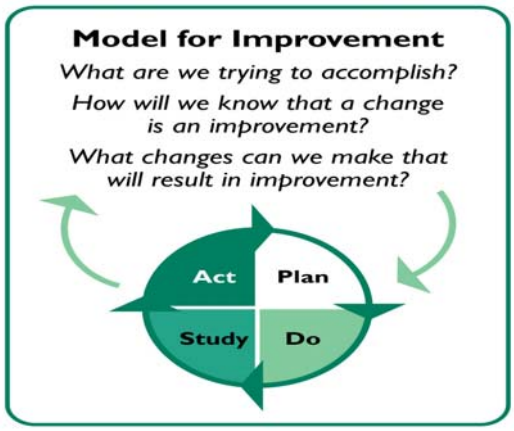


Figure 5: Model for Improvement

After experiencing success with a small change, and perhaps refining the change to get a better result, the team can implement it on a larger scale and share it with the other teams. Later, during the spread phase, the changes generated by teams are written into the improved change package of tested changes that will be spread to other parts of the organization. When the cause is obvious or when the problem solvers are sufficiently knowledgeable about the process to make educated guesses as to the cause this approach yields a quicker result. Quality improvement does not end with the last step; it is an ongoing or continuous process.

4. How is an Improvement Collaborative Managed and Supported?

Figure 5 shows an organogram of the different groups/entities responsible for managing and improving the quality of PHC services, followed by a description of their duties and responsibilities.

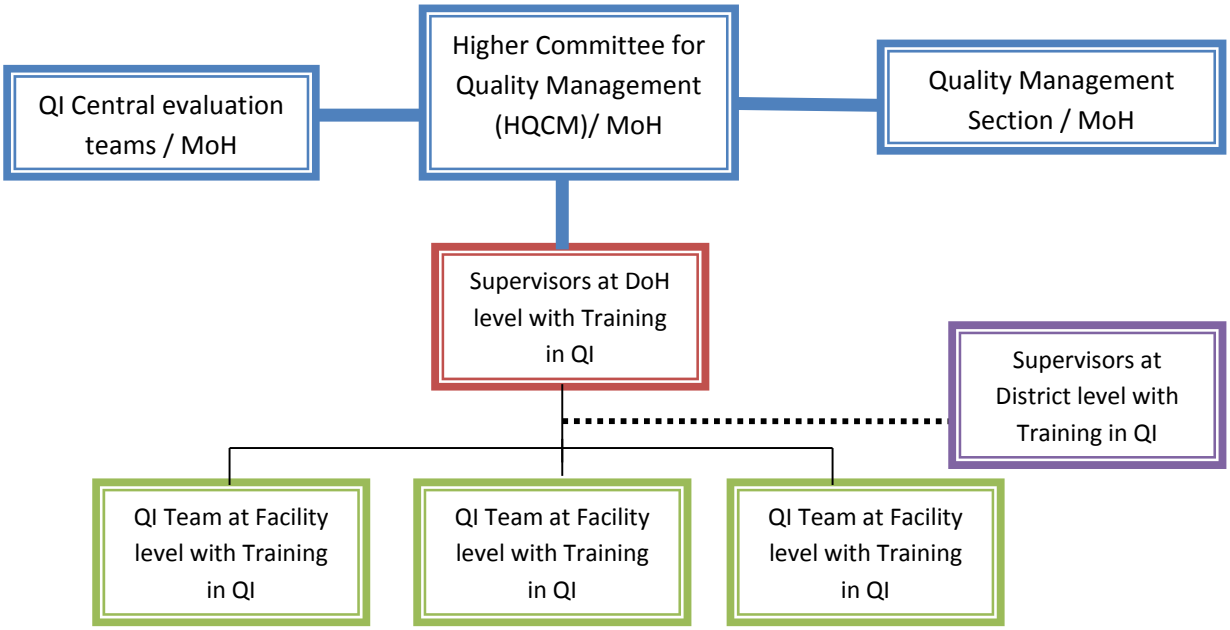


Figure 6: Organogram of entities managing and improving quality of PHC services

4.1 Central Level – Higher Committee for Quality Management

At the central level in Iraq, it is proposed that the Improvement Collaborative process be managed by a few key people. The Ministry of Health Deputy Ministry for Administrative Affairs, Director for Quality Management along with his staff in the Higher Committee for Quality Management and in conjunction with the Inspector General office will lead the process of improving, monitoring and evaluating quality of services. It is proposed that the Quality Management Section manage the Improvement Collaborative process and help with facilitating the selection of the goals/aims of Improvement Collaboratives at the DOH level, confirming indicators to be measured, and helping to introduce additional measures for collection of data on specific indicators if that is necessary. This central body will oversee the process of identifying and managing the training of the Supervisors in the area of Quality Improvement and ensure that the process is moving and does not stagnate due to lack of a high-level commitment. Also, the Quality Management Section will review performance data from the Collaboratives and as changes are noted, ensure that the information about tested new best practices is shared throughout the MoH. Key staff at the central level include: a director, a coordinator, and technical support for making quality improvements. Supervisors/coaches need to be selected and then trained in QI and skills that will enable them to support and enhance the performance of QI teams. Because management is time-consuming, the MoH may find it is necessary to have a full-time person dedicated to certain functions, such as a Coordinator.

Key Duties/Roles at Central Level:

The staff at the central level is comprised of a management team consisting of a director, coordinator, and a quality technical support team. The committee members of the Higher Committee on Quality Management include: the Deputy Minister of Administrative Affairs (chairman), the MoH General Inspector, and Director Generals of certain MoH sections. This committee is responsible for preparing standards and guidelines and establishing central evaluation committees in the MoH.

Functions of Manager of the Improvement Collaborative:

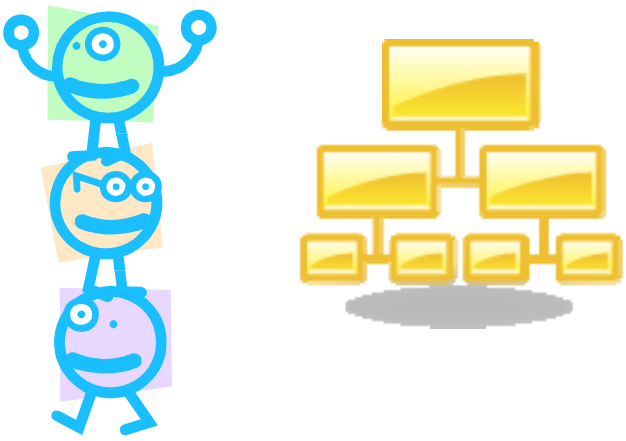
- Provides high-level leadership support to the Improvement Collaborative
- Provides fundamental support for collaborative work (has political clout).
- Has the influence and credibility to ensure that the goals of the collaborative are aligned with the goals of the MoH (that is appropriate and priorities); can speak for the upper management in promoting the idea that the success of this improvement collaborative effort is a significant goal of the Ministry, thereby influencing the rank and file of the MoH to view the collaborative as important.
- Reviews periodic reports on collaborative achievements and obstacles and reports to the Inspector General's office concerning results from the Improvement Collaboratives.
- Can empower and mobilize human resources as needed; grants necessary permission for the collaborative activities to take place or clears the way for resources to be deployed.
- Holds collaborative operational management accountable to agreed commitments.
- Involved in higher level decision making.
- May appoint or authorize collaborative operational management team and approve organizational structure.
- Facilitates links between collaborative activities and MoH policy.

4.2 Quality Improvement Working Group

In Iraq, the goal of introducing the methodology on Improvement Collaboratives is also being supported by the QI Working Group (see Appendix II for Terms of Reference) working in conjunction with the Quality Management Section in the Public Health Directorate. Examples of ways that the QI Working Group can assist include: 1) developing a change package comprising the details of relevant Best Practices, 2) deciding on the best indicators to measure progress or 3) reviewing how to introduce and ensure that the new indicators are introduced systematically once past the pilot phase of testing their feasibility. Most important, is the commitment and leadership of this group to supporting and valuing improving quality throughout Iraq. Some members of the QI Working Group may be renowned experts in their field who can provide technical expertise with the development of ideas for the initial change package and by participating as faculty for training in clinical skills training and technical updates at the Learning Sessions. Examples of how the QI Working Group could be useful are:

- Help to develop a change package comprising the details of the Best Practice.
- Decide on the best indicators to measure progress of the change package.
- Serve as faculty for training in the content during learning sessions.
- Provide technical and political support.
- Organize and implements overall strategy.
- Provide resources.
- Assist with planning a spread strategy.
- Stimulate participation by others.

Table 5: Overview of Improvement Collaborative and Team

The Improvement Collaborative usually has a centralized management structure and location that oversees the work of multiple teams of health workers, located in different health facilities, who are all working toward a common aim. The central management team collects and maintains records and data from each of the teams to track their progress and make sure the successful innovations get shared with other teams, and are added to the final implementation package before spreading to further sites. Sometimes a large collaborative may have over fifty or a hundred different sites, and the sites are very spread out, so management may decide it is more feasible to further divide the teams into sub-regions where they may bring together a more manageable number when they have Learning Sessions. Coaches may support several teams in their district or region.	**Team members at meeting** 

The Improvement Collaborative usually has a centralized management structure and location that oversees the work of multiple teams of health workers, located in different health facilities, who are all working toward a common aim. The central management team collects and maintains records and data from each of the teams to track their progress and make sure the successful innovations get shared with other teams, and are added to the final implementation package before spreading to further sites. Sometimes a large collaborative may have over fifty or a hundred different sites, and the sites are very

spread out, so management may decide it is more feasible to further divide the teams into sub-regions where they may bring together a more manageable number when they have Learning Sessions. Coaches may support several teams in their district or region.

Day-to-day management of the Improvement Collaborative- Coordinator Duties:

- Leads operational planning, coordination, oversight, and implementation. Responsible for the tasks either directly or indirectly.
- May select sites for the collaborative.
- Ensures maintenance of a central database for the storage of data from all the site teams and aggregation for reporting up to higher management and key stakeholders.
- Oversees the selection, training, and supervision of coaches.
- Organizes Learning Sessions, including organizing technical experts and QI experts.
- Encourages and inspires personnel to accept new ideas and ways of working.
- Organizes periodic meetings of collaborative management team.
- Coordinates with MoH and other partners.

Due to the extensive time commitment, it may be necessary to dedicate a full-time employee for this function, but may begin by assigning a person who has other duties rather than hiring an additional person and see how the initiative progresses.

Technical Support for Quality Improvement

Some collaboratives have a dedicated person who is an expert in QI to provide strong technical support for how to do quality improvement. This is an important role as it provides the expertise to conduct QI training and capacity building for coaches, teams, and others involved in collaborative in the following skills: QI and team building topics; communication skills; how to use flowcharts to analyze the current system; how to collect, display and analyze data; how to plan and carryout a test of a proposed change; how to use other QI tools such as brainstorming; decision-making methods; and root cause analysis. Mentors new coaches; sometimes coaches teams.

4.3 Supervisors/Coaches

Who provides support to the quality improvement team? What is a coach?

- The concept of a coach comes from a sports context and is now used in business and personal development. In the context of QI, a coach is more like a mentor who models how to conduct QI. They support the team leader and the rest of the team when they have difficulties working together, get stuck or confused about what to do next, or need to learn new skills: for example, clinical skills (if they don't have the expertise themselves, they provide access to an expert who does), data skills, and interpersonal skills. They help the leader and the team to become self-sufficient in the use of appropriate tools and procedures to function and solve problems by

themselves. An effective coach has developed an understanding of how people work together in a team and how to improve the effectiveness of work within the team.

- Coaches help team leaders plan, conduct, and evaluate team meetings; observe team meetings to see how well the team is working; check teams' data for accuracy; impart knowledge and build skills among individual team members and with the team as a whole. They can also provide skills sessions during Learning Sessions.
- QI coaches may be someone from a district or regional health management team, such as a district health officer, who is appointed to support a number of teams in his or her geographical area. The organization that is conducting the collaborative can select and train appropriate members of their staff or local experts with a strong interest in QI to perform this function. Persons selected to be coaches should be a "champion" of QI and knowledgeable (or trained) in QI and coaching skills. Even if the new coach already has QI skills, he or she will need training in coaching skills and mostly likely additional QI training.
- A QI coach is someone who has QI skills (PDSA, data, working in teams, etc.) that will be used to provide support to QI teams in the various locations, or sites, who actually carry out the work of a collaborative.
- It is critical that the coach and the team leader have a good working relationship. They should have a mutual understanding regarding the roles and responsibilities of both the coach and team leader and their shared responsibilities.
- They help the teams to learn how to work together as a team using QI tools and methods, such as conducting meetings; collecting, displaying, and interpreting data; conducting PDSA cycles; and documenting changes.
- Periodic visits from coaches are critical to the well-functioning of teams.
- The goal of the coach is that the leader and the team will become self-sufficient in the use of appropriate tools and procedures.
- Coaches mentor team leaders, helping the team leader plan, conduct, and evaluate meetings, observing group processes and giving both supportive and constructive feedback.
- Coaches model how to "do" QI for teams, sharing their knowledge and abilities with them

Duties and Responsibilities of Supervisors for Site Visits

- Evaluate whether site QI teams are functional;
    - Review of the team composition and assist the site appropriately.
    - Team members have roles and responsibilities.
    - Number of meetings held, review minutes.
    - Level of completion of the action plans developed at the end of the QI training (Learning session 1).
    - Documentation of changes /Quality improvement efforts by use of the documentation journal.

- To assist teams in ensuring continuous data collection;
    - Ensure that QI teams understand the information needed for the indicators monitoring performance.
    - Review staff plans on data collection and assist accordingly to ensure that data is collected regularly.
    - Review data collected and changes implemented to improve care.
    - Identify and discuss challenges with data collection.
    - Ensure MoH tools (registers) are properly completed and regularly updated

- To facilitate site teams to start improving care:
    - Ensure that sites have collected information from the registers to establish gaps in their service delivery.
    - Facilitate sites in problem identification, analysis and solutions to the problems.
    - Review the documentation journal and assist site teams in linking changes to performance.

EXAMPLE: Conduct a training needs assessment on resuscitation for health care providers involved in newborn care by doing the following:

- Assess all staff involved in newborn care at the health unit for ability to correctly resuscitate newborn babies.
- Identify individual gaps and give feedback to the staff immediately.
- Identify facility staff to be lead person in teaching other staff the steps of newborn resuscitation.

- Build consensus on next steps (by the site team members and the visiting coaches)

Proposed method of work by the Supervisors:

- Meet the facility administration/ in charge and give a brief on reason for the visit.
- Meet with site QI team members and discuss the above points.
- Demonstrate how to collect data on the different indicators.
- Verify information gathered (data, team members, team functionality).
- Assess all newborn care providers for resuscitation skills.

Useful Documents for the Supervisors:

- Copy of the Action plans developed during LS1 (See Appendix III. Documentation of Quality Improvement at PHC Center.
- Site coaching guide.
- Guideline or particular clinical checklist for improving practice (e.g. ANC guideline).

4.4 What is a QI team?

An Improvement Collaborative is made up a number of QI teams, which can achieve dramatic improvements in the quality and outcomes of care in a short period of time. Each QI team is made up of health workers from one location or unit in an organization. These QI teams meet on a regular basis for a period of time to focus on improving something that they are all involved in, such as the way they provide a health care service. They may meet weekly, biweekly, or monthly for an hour or so to keep each other informed on progress and to decide what needs to be done next. The QI teams are the ones who do the actual work of making improvements. Using their experience, they generate suggestions for changes to make that they think will be improvements. They then test the changes on a small scale and collect data to see if the changes produce the intended improved outcome. Each QI team tracks the same indicators monthly to show how effective their improvements are. Each person on the team has a role to play; the roles generally include leader, recorder, time keeper, and member. Together, all the QI teams work toward making improvements in a single clinical area, such as maternal health-- because teams have tested their changes to see if they really work, other teams may be able to quickly apply proven changes without testing again.

4.4.1 Quality improvement team?

Who should be a member of the quality improvement team? Who selects the quality improvement team?

- The team is composed of representatives of staff or other persons involved in, and knowledgeable about, whatever process is being improved. For example, when the topic is maternal care, the team may include a doctor, a midwife, a nurse, perhaps a traditional birth attendant, and any other staff that are involved in maternity care at that site.
- The team and its leader are usually selected by the director of the site.

- Many, but not all, teams include a patient or client as they offer a unique perspective. The patient may attend only select meetings where their input is required.
- In some places, there are QI teams, whose members are drawn from community groups such as health committees, women's groups, religious groups, etc., and may include one or more community health workers and a health worker representative from a nearby facility. In other countries, such as those in Latin America, "parish teams" have included professionals from the from the health center as well as community health workers from the surrounding communities.

FIELD EXAMPLE **Kenya: District and Team Composition** **of a QI collaborative to improve access to and the quality of Antenatal Care (ANC):**	
District Team consists of a coordinator to manage the collaborative, trained supervisors, and a statistician to track aggregation of data and progress in improving the selected indicators.	**PHC QI teams** were typically composed of all staff (including the receptionist and leaners) in smaller clinics (up to 10 staff) or in larger PHCs teams were formed with one representative of each cadre and all services and the in-charge (e.g. physician, nurse, lab tech, pharmacist, medical assistant, etc) (Additionally, the hospitals used a preexisting hospital quality committee, composed of the hospital director, the OB/GYN and nursing in-charge, to review the progress of its QI team and support them.)

4.4.2 What does the QI team do?

The team does the actual work of improving quality of care. They:

- Measure a number of indicators to gauge their progress.
- Determine where they have gaps or problems implementing the new standard of care.
- Generate creative changes or adaptations (improvements).
- Discover the best ways to overcome obstacles in their settings (these are operational changes).
- Test each change using Plan-Do-Study-Act cycle to see if the change results in an improvement.
- Implement the successful changes

4.5 What is a site?

- The location of an individual quality improvement team.
- Most frequently these are health care facilities at any level of an organization where the improvement efforts are focused—primary, secondary or tertiary levels.

- When more than one level of care is required to improve the aspect of care, it is important to select facilities that refer between levels of care, e.g., maternal care, the types of sites may include a primary care facilities that provide antenatal care, hospitals that provide normal labor and delivery services, and referral, or tertiary care hospitals.

- Communities can also form a QI team and therefore you can consider a community to be a site. Because an important aspect of quality includes fostering a continuum of care, ensuring that a health care representative from a nearby primary care facility and a community health worker are members of the community site team which is important to create and maintain crucial linkages between the community and the health system

4.5.1 What are the major considerations for selecting a site?

- Considerations for selecting sites where QI teams will be established are linked to several issues: the spread strategy; the level of health facilities affected by the changes proposed; and the coaching strategy—if the supervisors/coaches will be traveling to visit the teams, they need to be accessible (within a reasonable geographic range).

- Often a "slice" of the system is selected in a particular district; e.g., a couple of primary care sites, a secondary level hospital, and a regional hospital. When spread phase begins, personnel from the demonstration sites can assist the teams in new facilities as they come on board.

- Health statistics (facilities with the most cases or highest need); sites that have previous experience with QI or, when the target clinical area is new, those who are already working in the target clinical area; facilities where senior and local managers are supportive; if working with community, places where community leadership or history of community liaison is strong.

- Other considerations include issues of geography, levels of care, and types of sites (e.g., public, private, religious, or NGO) sites. If scaling up later, decisions must be made as to whether it is better to have a wide variety of sites (e.g., urban and rural, large and small) in order to provide solutions for different settings.

4.6 What is the change (or implementation) package?

- The initial change package is a collection of changes using the current knowledge base and incorporating evidence-based best practices, operational changes, concepts, and strategies to improve the way care is accomplished, whether an existing or new process of care.

- The package may consist of interventions or changes to the system, changes to processes, or new skills for service providers. The changes can include policy and infrastructure changes. For example, to promote both breast feeding and kangaroo mother care (KMC) for low birth weight babies in Yemen, in addition to training in the new skills, a quiet, private room near the nursery was refurbished with rocking chairs and soothing furnishings.

- These changes are essential for achieving an improvement objective and desired results.

- It is usually developed by a technical advisory group (TAG) who are expert in the technical content, based on in-depth knowledge of obstacles in local setting.

- Provides basic menu to guide teams' work at the local level

Example of an initial change package in Kenya

In order to increase access to and quality of ANC, several interventions were tested:

- Taking PHC staff to villages and providing limited ANC services and BCC messages.
- Developed ways to purchase iron folate and folic acid supplements that had been deleted from the Essential Medicines List.
- Arranged staff to care for pregnant mother when visiting PHCs with older children for other reasons (sick care, immunization).

4.6.1 How is the initial change package developed?

- It is a product of the aims and objectives of the collaborative. It includes the clinical, organizational, and/or policy changes in care that form the focus of the collaborative.

- The change package is usually defined by the group of stakeholders, including technical experts, or TAG, who defines the aim.

- The change (intervention) package that was initially developed and tested through the first phase (demonstration collaborative) assures the presence of an effective and well tested package of best practices that are ready for implementation at a larger scale (spread collaborative) When it is time to spread, staff involved in the first phase (demonstration collaborative) can use their experience to assist new sites to implement the change package at a larger scale. Eventually, two change packages: the original one and then, an improved, tested change package with all the improvements added in.

4.6.2 What is a Learning Session?

- A Learning Session is an event, usually lasting one or two days, that brings together representatives of the teams, along with their coaches and other stakeholders who play the role of faculty. The session provides an opportunity for them to come together to learn new clinical skills, knowledge and updates; share their data and results with one another; and plan for their upcoming Action Period.

- The sessions are usually organized by the coordinator with the help of the QI advisor. The agenda includes time for the teams who have developed and tested successful changes to showcase how they accomplished those changes. This gives other teams the opportunity to ask questions and learn about how they can apply the same solutions in their workplace.

- The agenda is written by the coordinator with input from the coaches on what the teams need. It usually includes the following; 1) a technical component—either new skills and knowledge, an update, or a review if teams are having trouble with the topic; 2) QI skills such as flowcharting or working with data; 3) an interpersonal skill session such as decision-making or how to conduct an effective meeting; 4) time for teams to present results and share problems and successes with each other; and 5) time for teams to write their action plan for the coming action period. The agenda allows enough time for representatives of different teams to interact with each other, which contribute to exchanging ideas and spread of best practices.

- The faculty may be drawn from wherever the expertise resides: e.g., the QI expert; coaches, technical experts and partners, the TAG or Steering committee.

- Usually only two representatives from each team attend (this can vary). Some teams send one person to attend two sessions in a row for continuity and then allow someone else to attend the next time, thus giving the opportunity for everyone to attend at least one Learning Session.

- The first Learning Session is different from the ones that follow. Typically the first Learning Session, while there are representatives from the sites, the composition of the teams may not yet be finalized. The meeting may be the first orientation of the site representatives to the concept of the collaborative. The first session may consist of learning how to analyze their current system and collect baseline data to carry out during the first Action Period. For subsequent Learning Sessions, it is important that the coaches and QI advisor include some training on topics that the teams on an as-needed bases or refreshers on skills in which the teams are weak.

When do learning sessions end? How to prepare for spread?

- Learning Sessions (and Action Periods) end when the management team determines that there are sufficient implementable improvements made to the original change package.

- Spread requires folding all the improvements into the original change package to make a “new, improved “ or enhanced change package that benefits from the learning by the teams—namely, it includes the new changes and innovations by the teams during the demonstration phase.

- Spread requires preparing the new sites, including planning for coaching for the new teams

4.7 What are Action Periods?

- Two- to three-month periods between Learning Sessions when the teams do their generation and testing of changes. This is when the real work of the collaborative is done.

- Teams generally meet every one or more times per month to track their progress and generate and test new changes. During each action period, the teams should get at least one visit from their coach

5. Building Technical Capacity in Staff to Implement Improvement Collaboratives

The technical competencies required by staff working and involved with improvement collaboratives are presented as follows: Core competencies (required of everyone) and competencies assigned at different levels:

A. **Core competencies**: Everyone who is working or involved with collaboratives will need to learn about the collaborative and how to perform their role in it; ranging from a half-day orientation of stakeholders to skills building for those involved in the day-today operations. This should be built on a sound foundation of knowledge about quality and quality improvement.

B. **Competencies required of staff at different levels of the system and differing responsibilities**: These people may be responsible for supporting the existence of the collaborative and should be oriented to its activities and kept abreast of its progress.

- **Senior management team**. In general this group primarily needs sensitization to collaboratives and to quality improvement as well as orientation to the change package to be used. More specifically, the coordinator will need to be able to direct whomever will be in charge of assembling and maintaining the data as to how it should be done; namely, individually by site and aggregated for each indicator to show the overall progress.

- **Technical experts**. They need orientation to the Improvement Collaborative. There may be one or a number of them who participate in the TAG and provide input when needed, starting with the development of the aim and initial change package, and participating in clinical skills training or updates at the Learning Sessions.

- **Supervisors/coaches** need a combination of communication, facilitation, and training skills. They will benefit from having good skills in competency based training and just-in-time training (training delivered just as the team is ready to use the skill), which they will use to either deliver knowledge or skills to the QI teams. The knowledge and techniques include: communication, particularly in active listening and how to give and receive feedback; facilitation skills; team issues, such as working together, conducting effective meetings, documentation and record keeping; establishing positive team climate; and dealing with conflict. A guide for Coaching and Team-building will be developed for implementation in Iraq as part of the preparation of the supervisors to support the implementation of Improvement Collaboratives.

- **QI team members at each site**. Skills needed by teams may include clinical technical skills, e.g., new standards and techniques, such as what comprise the Active Management of the Third Stage of Labor (AMTSL) and how to perform controlled cord traction. QI skills teams and their coaches need to know how to conduct baseline assessment of their facility; how to use flow-charting or other techniques to analyze their processes; how to gather, display and analyze data; basic information regarding standards and indicators; how to work in a team, including: roles, effective meetings, communication, documentation, decision-making, and how to handle conflict For example, each team

needs at least one or two members who know how to collect and display data. All the team members should be able to interpret data to know when the changes they have introduced are an improvement.

- Learning Sessions usually contain updates and skills sessions for representatives of the teams. It is important to have a plan to train the team members who don't come to the Learning Sessions. It is not practical or reasonable to expect those representatives to be able to return and train the remainder of their teammates in everything they have just learned! Therefore, some Improvement Collaboratives choose to conduct on-site training of entire team in technical and QI skills.

- **QI team leaders**. Leaders can be mentored by coaches who meet with them prior to team meetings and/or after to debrief.

5.1 What are the phases of implementing an Improvement Collaborative?

- Preparation phase.
- Implementation (rollout or demonstration) phase.
- Spread phase.
- Post-collaborative phase to maintain the gains

5.1.1Preparation Phase

The preparation phase may last several months depending on the time needed to develop local consensus about the scope and objectives of the collaborative and the complexity of the technical area.

- Engage key stakeholders in outlining and defining the collaborative topic and develop aims and general processes to achieve outcomes; develop initial implementation package; establish an organizational structure; orient and train management and coaches. Select the initial sites in light of the spread strategy.

- Develop QI and technical training and supportive supervision strategies for teams; develop the collaborative implementation plan and timeline; develop (and test) a monitoring system, including a monitoring plan, indicators, tools, and mechanisms for routinely validating data. Develop a mechanism and standardized approach to capturing and documenting the improvements tested and their outcomes. Design communication and sharing mechanisms so that teams can rapidly learn from one another. Organize the content, methods, and schedule and roll-out, including agenda and faculty, of Learning Sessions.

- Identify potential coaches and assess their QI and technical capacity needs in QI skills, team dynamics, monitoring, mentoring; ensure adequate QI and technical content coaching support to teams, including the possibility of using internal coaches. Build coaching capacity where needed in QI skills, team dynamics, monitoring, mentoring; ensure adequate technical skills to assist teams; develop a plan for regular coaching of the QI teams is developed. Develop or adapt tools for QI teams and the coaches, such as training plans and materials for QI training, monitoring

(data collection forms, forms for compilation and analysis, monitoring manual, data storage), coaching, job aids, etc.

5.1.2 Implementation (Demonstration) Phase

The roll-out phase of a collaborative is divided into three or more time periods in which a Learning Session followed by an Action Period takes place. These Action Periods are when the work of the collaborative is conducted by the teams. At the end of a demonstration collaborative, a conference is often held to share results with members and stakeholders outside the collaborative.

- Form and prepare QI teams to carry out improvement work by building capacity in technical and QI skills; prepare sites/ensure availability of basic resources; conduct learning sessions and other mechanisms for sharing; keep key stakeholders informed of progress; determine when to synthesize teams' innovations and move from demonstration to the spread phase.

- Organize the content, methods, and roll-out of Learning Sessions or other mechanisms for routine sharing. Determine whether there is a need to decentralize learning sessions and, if so, when to bring all sites together for shared learning.

5.1. 3 Spread Phase

What is spread? If a spread phase is planned, it may begin at the time of the end-of-collaborative conference, so that persons new to the collaborative can attend. Members of the collaborative can become change agents and advisors for the spread phase. Spread is synonymous with scale-up. Often following the demonstration phase (also called "phase 1" or demonstration collaborative), a follow-on spread collaborative (often referred to as a "phase II" collaborative) is undertaken to spread the enhanced model developed in the demonstration collaborative to more sites. In some cases, the collaborative may just continue adding on teams from new sites. These new sites quickly build on the work of their peers from the initial sites.

The spread phase ideally is planned in the earliest planning stages so that factors such as geography, population levels, and location of facilities and potential coaches can be considered.

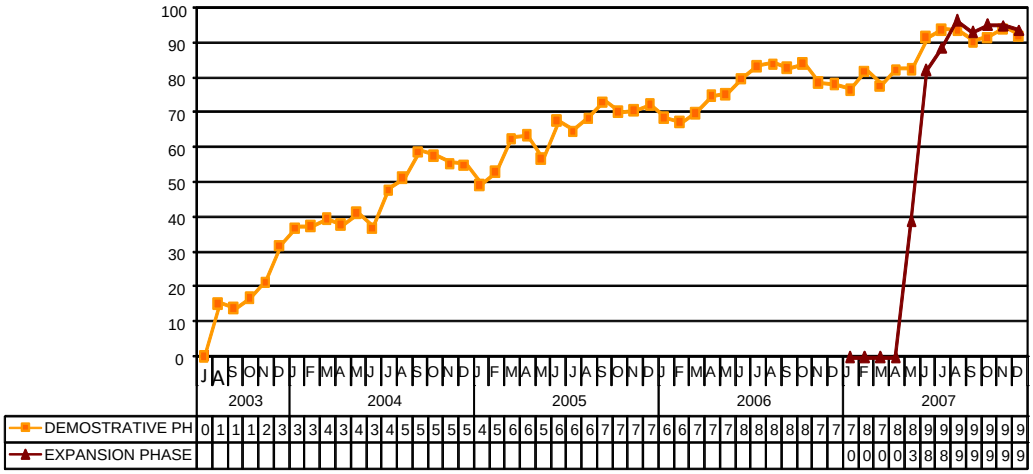
If a decision has been made to organize a Spread Collaborative, some key considerations in planning a Spread Collaborative include the following:

- **Establishing readiness and a foundation for Spread**. At the start of a Spread Collaborative, the various tested and accepted improvements to the initial, or original, change package that were generated by the improvement teams should be incorporated into a superior model that will be spread to new sites or facilities. There innovations and operational changes should be sufficient to enable the system to function smoothly and obtain the desired results.

In the example below, after the demonstration phase, when it was time to expand the collaborative, the use of oxytocin was achieved comparatively quickly.

Figure 7: Ecuador; percentage of deliveries in which Oxytocin was administered to prevent Hemorrhage (AMSTL) in health facilities participating in the EOC

Collaborative, demonstration and expansion phases



- **Clarifying the goal of the spread**. Essential features of the improved processes to be spread should be clear. In addition, the intended improved outcomes should be clear, making sure the improved processes are the results from the change package need to be presented as credible, observable, relevant to main problems, easy to adopt, in line with existing values, and with clear advantages over existing practices. The number and type of facilities to which the interventions are to be spread should be agreed, including population coverage targets for spread activities; quantitative targets for numbers of providers complying with evidence-based guidelines, expected outcomes and timelines for achieving the expected targets.

- **Developing a Spread operational plan**. An organizational framework for the spread collaborative should include the identification of the leading institution, and the appointment of a Coordinating Committee to lead and manage the spread collaborative.

Working together with the national institutions, the operational plan should address at a minimum the following elements:

- How will the Spread be organized? Will it be done in phases? If so, how many?

- What new roles need to be defined and filled?

- What mechanisms will be used for increasing the perceived legitimacy of the interventions to be spread (endorsement by widely recognized "champions" in the field, dissemination of results from QI teams from improvement collaborative, policy decisions, international opinion)?

- How will leaders from the improvement teams from the first phase be identified and become "change agents" to assist in the spread of interventions to the new target facilities?

- How will providers in the Spread Collaborative be trained both in the clinical content of the intervention, as well as in implementing the organizational changes needed for improved processes?
- What communication mechanisms will be established among participating facilities?
- How will the Spread Collaborative apply key knowledge on innovative interventions to overcome obstacles to evidence-based practices?
- What monitoring mechanisms will be put in practice to track compliance with improved practices and document improved outcomes?
- In addition, what other mechanisms for increased motivation of providers for Spread activities, will be considered? These could include: a) communication of the advantages of adopting the improved process; b) competition and rewards among facilities in terms of implementing improved practice; c) use of widely recognized "champions" to advocate for new improved practice; d) engagement of professional associations in advocacy for improved practice; e) engagement of users' organizations in such advocacy; f) supervision visits by managers when use of improved practice is less than expected; g) inclusion of improved practice within management agreements or similar mechanisms that define commitments between facilities and contractors/payers
- Implementing and adjusting the Spread. The leading institution for the Spread Collaborative, such as the MoH, and the TAG or Coordinating Committee should establish mechanisms to oversee progress of the Spread achieved over time, to discuss data coming from monitoring compliance and outcomes, and to make decisions and adjust activities accordingly.

Steps for preparation for spread

- Begin with the full scale in mind because careful thinking through and organizing the scale-up effort is critical. Define the full scale before embarking on the demonstration so that the model that is to be spread is scalable to the required levels.
- If one can go full scale all at once, do not delay the spread process.
- If one cannot go full scale at once, a wave sequence approach is a good alternative.
- Make sure the champions who developed the changes play key roles in leading the scale-up.
- Create positive peer pressure for change.
- Pay attention to logistics because spread efforts require multiple factors to come together successfully. However, because much of that happens at the local level, allowing local control and trusting local adaptation is critical to success.
- Develop leaders within the system and at various management levels.
- Look carefully at both constraint factors, such as the availability of human resources, and favorable factors such as facilities, equipment, and systems (e.g., ability to pool resources;

redesign for efficiency) that can serve multiples of patients and sites once developed as part of the prototype.

- Take the successful elements from the pilot phase and incorporate them in the spread strategy.
- Develop a framework for spread; in other words, a superior model that has proved itself through the demonstration phase where it was improved, and get the support and visible endorsement of key leaders who are committed to the spread.
- Make sure the content of spread is clearly defined.

5.2 Strategies to sustain the gains of collaboratives

After the collaborative is finished, it is vital to ensure that management continues to support and sustain the changes.

- Incorporate parts of the collaboratives "new, improved" change (implementation) package into national service delivery policies and standards; build those aspects into pre-service training of health workers and in-service training of current staff.
- Incorporate quality indicators into routine monitoring and reporting systems; add quality monitoring to supervisory functions; build local capacity to do QI at the facility level, including developing permanent QI structures as appropriate; strengthen facility and district capacity for supervision and monitoring of quality and QI activities.
- Use incentives to motivate health care providers to do quality improvement and improve compliance with standards.
- Get more stakeholders involved in quality initiatives.
- Foster the development of a permanent community of quality practice for the collaboratives' technical area (including the Ministry of Health, professional bodies, pre-service training institutions, regional and district health authorities, NGOs, facility managers, and practitioners).

5.3 Costs of a collaborative

When planning for a collaborative the following items or factors should be considered:

- Training costs for coaches' and other staff training as needed
- Planning and management meetings
- Transport for coaching visits.
- Learning Sessions: transport, venue, accommodation, refreshments, per diems, stationery and photocopying

5.4 Pre-conditions necessary for a collaborative to work

For a collaborative to be successful, or to be the correct strategy to work towards quality improvement in a given area, certain pre-conditions must be met. These conditions include:

- Organizational leadership/support for the improvement effort to take place.
- Different sites available and willing to work together on a common problem and to share ideas.
- Some evidence-based practices that exist to address the problems that the collaborative can utilize

6 Appendices

Appendix I. List of indicators

Structure Indicators:

Structure	Measure
Infrastructure	
Availability of continuous and safe water Clinics with a toilet for use by patients and in good working order	% of clinics with water (in a region/ public or private/ urban or rural) % in a defined area
Availability of uninterrupted electricity Clinics with a standby generator in working order	% of clinics with electricity (in a region/ public or private/ urban or rural) % in a defined area
Availability of communication infrastructure -Telephones -Fax machines -Two way radio transmitter -E-mail	% of clinics with communication infrastructure (in a region/ public or private/ urban or rural)
Emergency response time to clinic emergencies	Less than one hour, one to two hours, more than two hours
Conditions of: -Roof -Floor -Electrical system -Plumbing -Yard Maintenance -Security -Safety of the building -Cleanliness of building/rooms	Rating system: (ie: if conditions are adequate the PHC facility receives one point, no point if there is a problem)

Structure	Measure
Equipment and Supplies	
Basic equipment -Infant scales -Thermometers -Stethoscope -Sphygmomanometer -Tape measures -Adult scales	% of equipment present, 80% is standard % of clinics with 50% or more of the listed items on hand, <50% Point system
Sophisticated equipment -Autoclave -Centrifuge -Microscope -Glucometer	% of equipment present % of clinics with 50% or more of the listed items on hand, <50% Point system
Basic Supplies -Syringes -Needles -Urine/stool containers -Urstrix -Bandages -Scissors	% of equipment present, 80% is standard % of clinics with 50% or more of the listed items on hand, <50% Point system
Delivery Supplies -Linens -Mucous extractors -Vitamin K/silver nitrate -Diagnostic sets (supplies for internal exam) -Fetal stethoscope	% of equipment present % of clinics with 50% or more of the listed items on hand, <50% Point system
Availability of hospital beds	
Pharmaceuticals -Availability of prescription medicines -Proportion of essential drugs in use that have been tested for potency (national level)	In a specific region, for a specific population (% with access) % per PHC facility

Process Indicators

Technical Aspects	Measure/Description
Overall patient care	As reported in survey, questionnaire, interview or observed in PHC facilities, medical or administrative records
Cares for and treats patients well	
Good clinical examination	
Dispensation of drugs	
Appropriate prescription	
Makes a good diagnosis	
Use of diagnostic equipment	
Appropriate referral	
Follow-up, continuity, monitoring patient during his/her stay	
Administration of injections	
Questioning of patient	
Drugs dispensed rapidly	
Recognizing one's limits	
Giving advice (how to take drugs)	
Appropriate care (bandages, injections)	
Screenings Physical, TB, cervical cancer, HIV, syphilis, mammography, breast cancer, pap smear, physical breast exam, blood cholesterol	
Preventive Counseling Smoking, diet/weight, exercise, alcohol/drug, calcium, domestic violence and STIs	
Appropriate prenatal care	
Appropriate rate of immunizations	
Performance according to standards (PATS)	
Behavioral and Interpersonal Aspects	
Overall reception	As reported in survey, questionnaire, interview or observed in PHC facilities or Physician/provider report cards
Compassion and support	
Access to doctor upon arrival	
Interest, attention paid	
Kindness, politeness, respect	
Waiting time	
Devotion, willingness to serve, being at patient's disposal	
Communication Doctor explained things Doctor listens to patient Satisfactory time spent with patient	

Outcome Indicators

Outcome	**Measures/Descriptions**
Recovery, cure	% of patients treated per PHC clinic
Rapid recovery, rapid cure	% of patients treated per PHC clinic
Mortality Infant Child Adult	Rate per population served by the PHC clinic
Morbidity	Rate per population served by the PHC clinic
Consumer Satisfaction	
Patients satisfied with PHC visit content -Personal interest shown to patient and medical problems -Patients questions answered and answers understood -Thoroughness of examination treatment -Physician knew what happened to you in other visits -Explanations of medical procedures and tests -Appropriate amount of time spent during the PHC visit -Overall satisfaction with care	As reported in survey/questionnaire/interview in PHC clinic
Patients very satisfied with personnel: -Physician -Nurse -Administration -Other primary health care staff	As reported in survey/questionnaire/interview in PHC clinic
Longitudinal continuity -Access to place of care over time -Access to regular provider over time	-% of patients who stayed with same place/provider more than 2 years -Average number years patients stays with place/provider

Sources: (Roemer and Montoya-Aguilar, 1988)
(Weisman, et al., 2000)
(Seid, et al, 2001)
(Haddad, et al 1998)
(Anderson et al, 2002)

Appendix II. ANC Health Care Improvement Project - Indicators to improve utilization and quality of ANC services

DISTRICT: _____ PHC FACILITY NAME: _____ Year _____

	Indicators	1	2	3	4	5	6	7	8	9	10	11	12
A	**ANC Coverage**												
i	*Estimated # pregnant women in the catchment area**												
1	# attending ANC 1 visit per month (= new ANC clients per month)												
2	# completing at least ANC 4 visits per month												
3	# registered <16 weeks per month												
B	**Delivery**												
ii	*# of expected deliveries in the catchment area per month**												
4	# of facility deliveries per month												
C	**Preventive Care**												
iii	*Total # ANC visits at facility per month (= new + revisit)*												
5	# with blood pressure reading documented/month												
6	# with hemoglobin level documented per month												
7	# receiving 3 months supply of iron supplements per month												
8	# receiving 3 months supply of folate supplements per month												
9	# with blood group (including Rh factor) documented per month												
Iv	*Total # 3rd trimester ANC visits (>=28 weeks) per month*												
11	# of 3rd trimester ANC visits protected against tetanus (at least TT2) per month												
12	# of 3rd trimester ANC visits receiving IPT2 (or more) per month												
E	**Counseling Pregnant Women**												
v.	*Total # ANC visits at facility per month* *(= new + revisit)*												
16	# counseled about birth plan												
17	# counseled about danger signs in pregnancy												
18	# counseled about birth spacing												
F	**Community Linkages**												
19	# of outreach visits conducted by health facility to community where ANC is included (monthly tally)												
20	# of pregnant women referred to the health facility by community representative (e.g. by CHW, TBA)												

*Data should be made available from the District Management Office or the District/Regional QI Coordinator. Data source: ANCR, MATR, IMMR 711, 105 etc

Members of the QI Team:

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Name: _____ Position: _____

Appendix III. Terms of Reference: Working Group - Quality Improvement

Membership: A Working Group has been formed that is focused on Quality Improvement consisting of individuals committed to improving the quality of care and representing the following technical areas and organizational levels:

- specialist in primary health care,
- maternal-child health,
- management of non-communicable diseases,
- representatives from central, provincial and clinic levels

Tasks: The Quality Improvement Working Group has been convened to support the Primary Health Care Project in helping the MoH accomplish the following tasks. These tasks will contribute to the overall improvement of clinical care at PHC Clinics throughout Iraq by:

- Developing and testing policies and procedures to establish National Primary Health Standards of Care that describe a process to institutionalize the process to develop, review, revise/update, approve, and disseminate PHC protocols and related tools and (i.e. training curricula, job aids, BCC materials, etc).

- Developing a Handbook of Quality Standards and Operational Guidelines for Clinical Service Delivery in Primary Care Clinics by: a) completing an inventory of existing treatment protocols, b) agreeing upon a template for new/existing protocols, c) prioritize areas for Standards, and 4) update/revise 20 such Standards. In addition to the Clinical Standards, other topics include: Quality Improvement, Supportive Supervision, and Patient Referrals. Note that this work will be done with the MoH taking the lead and developing their capacity to continue this work independently.

- Developing an expanded PHC Supervision/QI Program that shall include policies, new approaches/models for QI, training materials, jobs aids, monitoring and reporting tools in order to implement internationally recognized best practices and can be readily applied to improve management, clinical, and community partnership practices in busy primary care settings.

- Expanding the MoH Human Resource Training and Development capacity through implementation of a PHC In-Service Training Program that includes curricula, training materials and equipment, jobs aids, professional resources (books, journals), IT tools, etc.

- Developing a Research Agenda for Strengthening PHC in Iraq and overseeing the conduct of at least 3 studies to evaluate the effectiveness of innovative models for primary care service delivery in Iraq and 3 studies to evaluate effectiveness of QI activities.

Appendix IV. Documentation of Quality Improvement at PHC Center

PHC Center Name: _____ District _____ DOH _____

Improvement Objective #1	**Indicators** • **Insert #1** • **Insert #2** • **Insert #3**	
Part A. Situational Assessment		
Description of Problem: Briefly describe the problem being addressed and gaps between the current situation and your improvement objective.		
Process Analysis (Flow Diagram)*: Which steps in the process of care are currently problematic? Draw the steps in the process – e.g. what are the steps that a pregnant woman takes when coming for her first ANC visit (registration, visit with nurse, to lab to determine if pregnant, to doctor for examination, counselling by nurse for injection, to pharmacy to collect vitamin and iron supplements, receptionist to schedule return visit). ***A flow diagram is one of the basic tools for improvement that gives a visual picture of a process being studied. The flow diagram (also called a flowchart) is a graphic representation of a series of activities that define a process. See example in Appendix IV.		

Part B: Changes Worksheet: In the Table below, please list all the changes that the PHC Center QI team will introduce: (ACTION PLAN)

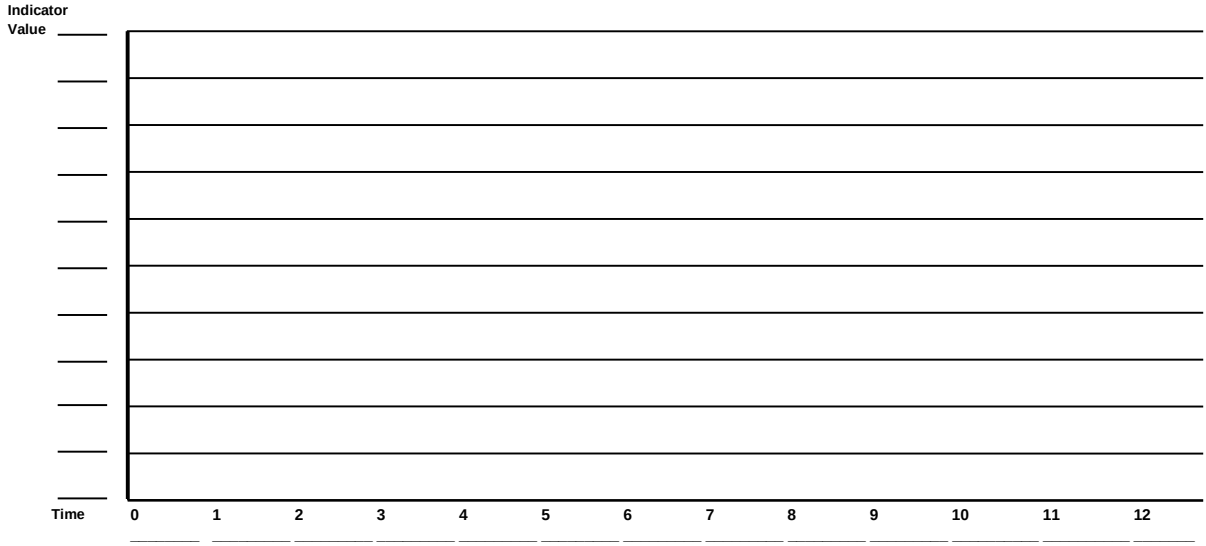
Tested Changes: Use 1-2 sentences to briefly describe the particular change that is being tested by the QI team	**Planned Start Date:**	**End Date** (if applicable)	**Responsible person**	**Comments:** Note here any **evidence** that the change took place; and potential reasons why it was or was not effective such as key barriers or important enabling factors.

Part C: Graph: Describe the indicator(s) you have used, including the value of the numerator and denominator. Annotate your graph based on the time the change was introduced or ended. You may use the change's number (from the table above) to annotate.

Name of the indicator:

Definition of the numerator:

Definition of the denominator:

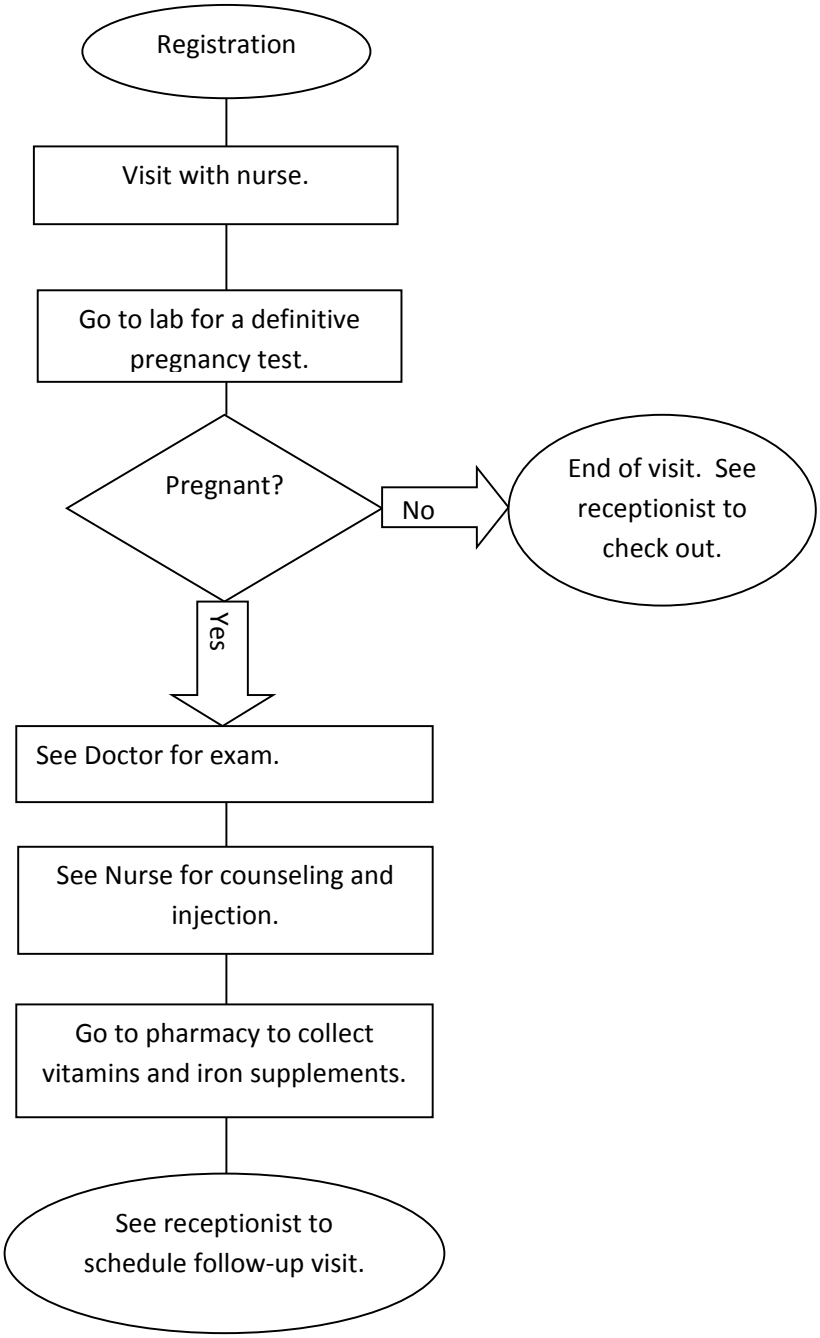


Indicator #1 ( )

Numerator									
Denominator									
%									

Appendix V: Example of a flow diagram

Steps a Pregnant Woman Takes When Coming for First ANC Visit



7. References

1. Bornstein T. Quality Improvement and Performance Improvement: Different means to the same end? QA Brief, Vol. 9. No. 1, Spring 2001. p. 4-12.

2. Catsambas TT, Franco LM, Gutmann M, Knebel E, Hill P, and Lin Y-S. 2008. Evaluating Health Care Collaboratives: The Experience of the Quality Assurance Project. Collaborative Evaluation Series. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1058.

3. Dick S, Gaudreault S, and Shakir F. 2010. Implementing a gap analysis framework to improve quality of Care for Your Patients. Case Study: Improving Care for Patients on ART. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1504.

4. Dick S and Hiltebeitel S. 2009. Designing your own improvement project. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1171.

5. Franco LM, L Marquez, K Ethier, Z Balsara, and W Isenhower. 2009. Results of Collaborative Improvement: Effects on Health Outcomes and Compliance with Evidence-based Standards in 27 Applications in 12 Countries. Collaborative Evaluation Series. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1397.

6. Institute for Healthcare Improvement (IHI). 2003. The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement. Innovation Series. Cambridge, MA: Institute for Healthcare Improvement. Available at: http://www.ihi.org/IHI/Results/WhitePapers/TheBreakthroughSeriesIHIsCollaborativeModelforAchieving+BreakthroughImprovement.htm.

7. Massoud MR, Donohue KL, and McCannon CJ. 2010. Options for large-scale spread of simple, high impact interventions. Technical Report. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co. LLC (URC). Available at: http://www.hciproject.org/node/1650.

8. Massoud MR, Nielsen GA, Nolan K, Schall MW, Sevin C. 2006. A Framework for Spread: From Local Improvements to System-Wide Change. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement. Available at: www.IHI.org/IHI/Results/WhitePapers/AFrameworkforSpreadWhitePaper.htm.

9. Tawfik Y, Segall M, Necochea E, and Jacobs T. 2010. Finding Common Ground: Harmonizing the Application of Different Quality Improvement Models in Maternal, Newborn, and Child Health Programs. Technical Report. Published by the USAID Health Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC).

10. USAID Health Care Improvement Project. 2008. The Improvement Collaborative: An Approach to Rapidly Improve Health Care and Scale Up Quality Services. Published by the USAID Health

Care Improvement Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1057

11. Collaboratives for Quality Improvement in Healthcare. 2007. Published by the Quality Assurance Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1049.

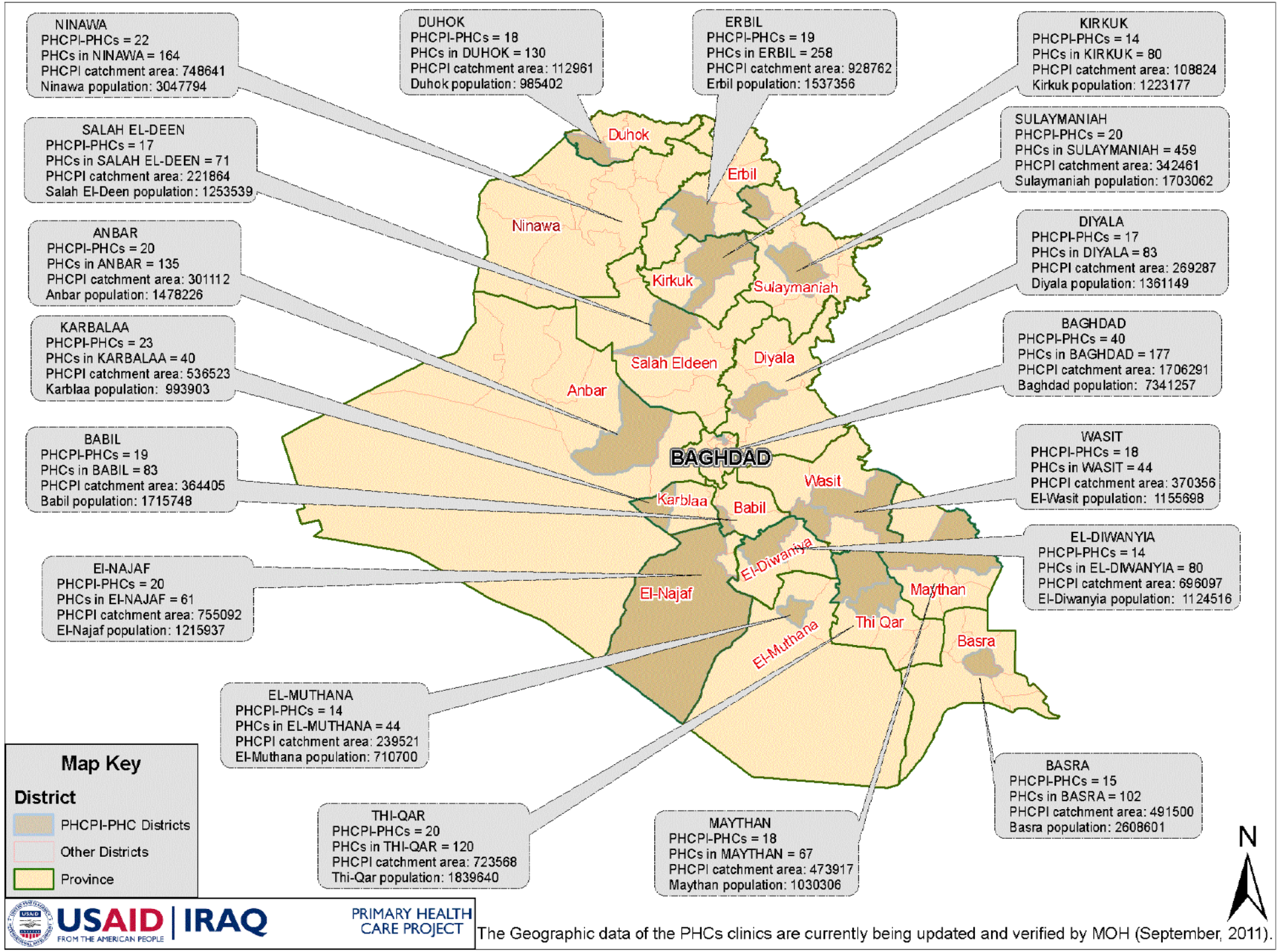
12. Coaching and Team-building. Undated. Published by the Quality Assurance Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1089.

13. Quality Improvement in Health Care. Undated. Published by the Quality Assurance Project. Bethesda, MD: University Research Co., LLC (URC). Available at: http://www.hciproject.org/node/1087.

Steering Committee members involved in preparing Quality Improvement program guideline for PHCs :-

- **Dr. Raad Ahmed Sa'eed/ Anbar DoH**
- **Dr. Nadhim Nayef Salem/ Anbar DoH**
- **Dr. Nagham Hussein Abed Ali/ Diyala DoH**
- **Dr. Maher Saleh Hadi / Diyala DoH**
- **Dr. Haider Ibrahim Khalil / Karbala DoH**
- **Dr. Sahib Abdulredhda Saeed / Karbala DoH**
- **Dr. Abdulrasool Noor Swadi / Babel DoH**
- **Dr. Hussein Kadhim Abboud / Babel DoH**
- **Dr. Mohammed Ali Abdul-Hussein / Wasit DoH**
- **Dr. Ali Majeed Ali / Wasit DoH**
- **Dr. Amar Jaleel Sabahi/ Baghdad - Karkh DoH**
- **Dr. Ra’ad Jaleel Shaker / Baghdad - Karkh DoH**
- **Dr. Mayada Abdulwahab Sabe' / Baghdad - Rusafa DoH**
- **Dr. Yousef Tawfiq / PHCPI**

PHCPI-PHCs population mapped to IRAQ population



USAID | IRAQ
FROM THE AMERICAN PEOPLE

PRIMARY HEALTH CARE PROJECT

The Geographic data of the PHCs clinics are currently being updated and verified by MOH (September, 2011).

U.S. Agency for International Development
Primary Health Care Project In Iraq
http://phciraq.org/
www.usaid.gov