Quality Assurance Methodology Refinement Series

Quality Assurance of Health Care In Developing Countries

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Preface

The Quality Assurance Project (QAP) was initiated in 1990 to develop and implement sustainable approaches for improving the quality of health care in less developed countries. QAP has two broad objectives: 1) to provide technical assistance in designing and implementing effective strategies for monitoring quality and correcting systemic deficiencies; and 2) to refine existing methods for ensuring optimal quality health care through an applied research program.

QAP helps LDC health managers to apply systematic methods for problem identification and resolution. Through the project's research component, known as Methodology Refinement, QAP staff is developing, refining, and validating cost-effective measures for improving the quality of health care. The project team is working toward this goal by reviewing the current state-of-the-art in quality assurance and collaborating with host-country colleagues in conducting seminal studies on how to best achieve optimal quality of care. Priority research areas include cost-effective data collection methods, establishing and instituting standards for provider performance and support systems, methods of identifying and prioritizing operational problems, and simple problem-solving methods.

Selected QAP research activities will be featured in the Quality Assurance Methodology Refinement Series. This first report, *Quality Assurance of Health Care in Developing Countries*, describes QAP's approach to introducing quality assurance methods into LDC health care delivery systems. It discusses the feasibility of implementing quality improvement mechanisms, describes QAP's quality assurance process, and provides an overview of how to build a quality assurance program.

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QUALITY ASSURANCE OF HEALTH CARE IN DEVELOPING COUNTRIES

by

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In the fifteen years since the Alma Ata Declaration, in which the international community committed itself to providing primary health care (PHC) for all, major efforts have been made in nearly all developing countries to expand PHC services. This has been achieved through increased resources allocated by both national and international sources, expanded health worker training, and major health system reorganization. Dramatic increases in outreach and health coverage have been reported by most countries, many of which have posted modest declines in infant and child mortality and some reductions in selected morbidity. However, the reported improvements have not always been commensurate with the resources expended. Furthermore, not enough has been done to assess service quality or to ensure that resources are having an optimal impact. Quality assurance (QA) methods can help health program managers to define clinical guidelines and standard operating procedures, to assess performance compared with selected performance standards, and to take tangible steps toward improving program performance and effectiveness.

This monograph provides an introductory overview of QA for developing countries. It will be of interest to policy makers, upper-level ministry of health (MOH) officials, and district-level health service managers. Representatives of international health-related organizations, such as the U.S. Agency for International Development (A.I.D.), the World Health Organization (WHO), and the United Nations International Children's Emergency Fund (UNICEF), will also find it useful.

Part I describes how quality assessment and improvement have been carried out in less developed countries (LDCs). Part II discusses the feasibility and rationale for applying QA in the developing world. Part III proposes some definitions and dimensions of quality. Part IV reviews the definition and basic tenets of QA. Part V presents a simple framework for the QA process, and Part VI discusses the challenges of building a QA program within a health care organization.

Contents

I. Quality Assessment and Improvement: Experiences in Developing Countries

Despite the importance of quality, to date there have been few sustained QA efforts in developing countries. Many evaluations have focused on measuring changes in mortality and morbidity, or on measuring coverage rates. Few have emphasized the quality of services or the process of service delivery. Further, systematic efforts to improve quality based on findings about the delivery process have been extremely rare.

In recent years several studies have focused on service quality, revealing widespread deficiencies in health care services and management systems in LDCs. For example, the A.I.D.-sponsored Primary Health Care Operations Research (PRICOR) Project designed and implemented methods for quality assessment and problem solving in LDC systems. After developing comprehensive lists of essential activities and tasks for seven child survival interventions, PRICOR supported comprehensive quality assessment studies in twelve countries. The project used service delivery observation as the assessment method, and experimented with simulations and role plays to study the care process. PRICOR conducted more than 6,000 observations of health worker-client encounters, discovering highly prevalent, serious program deficiencies in areas such as diagnosis, treatment, patient education, and supervision.

PRICOR also found that supervision systems, which are part of most LDC health systems, were essential to quality improvement. The project worked with district-level supervisors to develop data-based supervisory methods and to address problems detected through low-cost operations research studies. Under PRICOR, local managers and researchers conducted 109 operations research studies, many of which produced successful, low-cost interventions.[1]

In other efforts, WHO's Diarrheal Disease Control Program has developed a protocol employing the same methods for evaluating oral rehydration therapy. The Center for Disease Control's Combatting Communicable Childhood Diseases (CCCD) used a similar methodology to uncover deficiencies in immunization programs and in diarrhea and malaria treatment. An increasing number of health programs in developing countries are applying such simple tools. These include observation checklists and job aids to assess and improve quality.

II. Is Quality Assurance in LDCs Feasible?

At first glance, high-quality health services may appear to be a luxury beyond the budgetary limits of most LDC health systems. However, improving quality often does not cost, it pays. Attention to quality is essential to the success of primary health care programs, a fact that health managers with restricted budgets cannot afford to ignore.

Besides evaluating population coverage and the technological merit of health interventions, health providers must assess the quality of services compared with prescribed standards. Suppose, for example, that a measles immunization campaign meets its target coverage rates,

but close examination reveals that many vaccines were ineffective due to poor cold chain maintenance. In such a case, the intervention's impact is compromised and resources are wasted. Similarly for tuberculosis treatment, the initial drug dosages will be ineffective and the advantage of early treatment lost if the quality of counseling is poor and patients default. When symptoms recur the patient must be treated again, resulting in duplication of care and an increased risk of drug resistance. In both examples, attention to quality would have helped to reduce waste.

Health care providers and the community are expected to cooperatively assess health needs and to select a cost-effective health care approach. QA promotes confidence, improves communication, and fosters a clearer understanding of community needs and expectations. If providers do not offer quality services, they will fail to earn the population's trust, and clients will turn to the health system only when in dire need of curative care. This scenario is particularly unfortunate in developing countries, where the success of lifesaving preventive care, such as immunization, growth monitoring, family planning, and antenatal care, depends on the willing participation of communities. Moreover, as primary health care programs adopt cost-recovery strategies, the quality of service must be sufficient to attract the population to the clinic on a fee-for-service basis.

QA efforts also offer health workers an opportunity to excel, thereby increasing their job satisfaction and status in the community. Severe resource constraints limit the capacity of most developing country health care systems to offer salary increases and professional advancement as rewards for high performance; but these are not always necessary to improve quality. Very often, quality is a reward by itself. QA is a systematic approach for conveying the importance of excellence to individuals and teams. It provides the health team with tools that gauge current performance levels and facilitate continuous improvement. With the interest and active involvement of the organization's leadership, health workers can better meet and surpass performance standards, solve problems, and serve their clients' needs. Increased health worker satisfaction and motivation start a continuous cycle of improved health care and heightened effectiveness.

QA has the potential to improve primary health care programs without requiring additional supplies, logistical support, or financial and human resources. In fact, a legitimate QA objective is to maximize effectiveness and efficiency from current systems. Thus, QA affords donors, governments, health care providers, and communities the chance to realize more benefits from existing investments in health care.

III. What is Quality?

Quality of care must be defined in the light of the provider's technical standards and patients' expectations. While no single definition of health service quality applies in all situations, the following definitions are helpful guides:

The quality of technical care consists in the application of medical science and technology in a way that maximizes its benefits to health without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which the care provided is expected to achieve the most favorable balance of risks and benefits.

- Avedis Donabedian, M.D., 1980[2]

...proper performance (according to standards) of interventions that are known to be safe, that are affordable to the society in question, and that have the ability to produce an impact on mortality, morbidity, disability, and malnutrition.

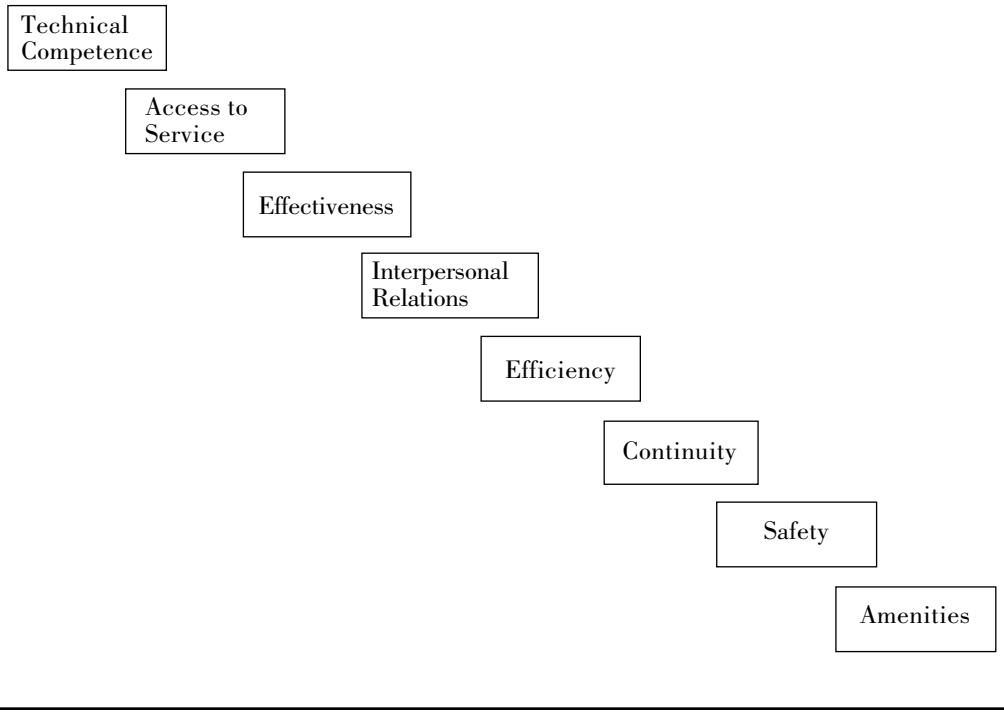
- M.I. Roemer and C. Montoya Aguilar, WHO, 1988[3]

The most comprehensive and perhaps the simplest definition of quality is that used by advocates of total quality management: "Doing the right thing right, right away."

A. Dimensions of Quality

Quality is a comprehensive and multifaceted concept. Experts generally recognize several distinct dimensions of quality that vary in importance depending on the context in which a QA effort takes place. (See box below.) QA activities may address one or more dimensions, such as technical competence, access to services, effectiveness, interpersonal relations, effi-

Dimensions of Quality



ciency, continuity, safety, and amenities. These dimensions of quality are a useful framework that helps health teams to define and analyze their problems and to measure the extent to which they are meeting program standards. The eight dimensions discussed in detail in this section have been developed from the technical literature on quality, and synthesize ideas from various QA experts. We feel that these dimensions are relevant to LDC settings; however, not all eight deserve equal weight in every program. Each should be considered in the light of specific programs and should be defined according to the local context. These dimensions of quality are as appropriate for clinical care as for management services that support service delivery.

1. Technical Competence

Technical competence refers to the skills, capability, and actual performance of health providers, managers, and support staff. For example, to provide technically competent services, a village health worker must have the skills and knowledge (capability) to carry out specific tasks and to do so consistently and accurately (actual performance). Technical competence relates to how well providers execute practice guidelines and standards in terms of dependability, accuracy, reliability, and consistency. This dimension is relevant for both clinical and nonclinical services. For health providers, it includes clinical skills related to preventive care, diagnosis, treatment, and health counseling. Competence in health management requires skills in supervision, training, and problem solving. The requisite skills of support staff depend on individual job descriptions. For instance, a technically competent receptionist must be able to respond to information requests, while a pharmacist might be expected to possess competence in logistics and inventory management. Technical competence can also refer to material resources: for example, an X-ray machine must produce radiation that consistently meets accepted standards. A lack of technical competence can range from minor deviations from standard procedures to major errors that decrease effectiveness or jeopardize patient safety.

2. Access to Services

Access means that health care services are unrestricted by geographic, economic, social, cultural, organizational, or linguistic barriers. Geographic access may be measured by modes of transportation, distance, travel time, and any other physical barriers that could keep the client from receiving care. Economic access refers to the affordability of products and services for clients. Social or cultural access relates to service acceptability within the context of the client's cultural values, beliefs, and attitudes. For example, family planning services may not be accepted if they are offered in a way that is inconsistent with the local culture. Organizational access refers to the extent to which services are conveniently organized for prospective clients, and encompasses issues such as clinic hours and appointment systems, waiting time, and the mode of service delivery. For example, the lack of evening clinics may reduce organizational access for day laborers. Where travel is difficult, lack of home visits or village-based services may create an access problem. Linguistic access means that the services are available in the local language or a dialect in which the client is fluent.

3. Effectiveness

The quality of health services depends on the effectiveness of service delivery norms and clinical guidelines. Assessing the dimension of effectiveness answers the questions, "Does the procedure or treatment, when correctly applied, lead to the desired results?" and "Is the recommended treatment the most technologically appropriate for the setting in which it is delivered?" Effectiveness is an important dimension of quality at the central level, where norms and specifications are defined. Effectiveness issues should also be considered at the local level, where managers decide how to carry out norms and how to adapt them to local conditions. When selecting standards, relative risks should be considered. For example, more frequent use of cesarean section might be warranted in a population with many high-risk pregnancies, despite the associated risks. To determine this strategy's effectiveness, the procedure's potential harm must be compared with its potential net benefits.

4. Interpersonal Relations

The dimension of interpersonal relations refers to the interaction between providers and clients, managers and health care providers, and the health team and the community. Good interpersonal relations establish trust and credibility through demonstrations of respect, confidentiality, courtesy, responsiveness, and empathy. Effective listening and communication are also important. Sound interpersonal relations contribute to effective health counseling and to a positive rapport with patients. Inadequate interpersonal relations can reduce the effectiveness of a technically competent health service. Patients who are poorly treated may be less likely to heed the health care provider's recommendations, or may avoid seeking care.

5. Efficiency

The efficiency of health services is an important dimension of quality because it affects product and service affordability and because health care resources are usually limited. Efficient services provide *optimal rather than maximum* care to the patient and community; they provide the greatest benefit within the resources available. Efficiency demands that necessary or appropriate care is provided. Poor care resulting from ineffective norms or incorrect delivery should be minimized or eliminated. In this way, quality can be improved while reducing costs. Harmful care, besides causing unnecessary risk and patient discomfort, is often expensive and time-consuming to correct. It would be misleading, however, to imply that quality improvements never require additional resources. But by analyzing efficiency, health program managers may select the most cost-effective intervention.

6. Continuity

Continuity means that the client receives the complete range of health services that he or she needs, without interruption, cessation, or unnecessary repetition of diagnosis or treatment. Services must be offered on an ongoing basis. The client must have access to routine and preventive care provided by a health worker who knows his or her medical history. A client must also have access to timely referral for specialized services and to complete follow-up care. Continuity is sometimes achieved by ensuring that the client always sees the same primary care provider; in other situations, it is achieved by keeping accurate medical records so that a new provider knows the patient's history and can build upon and complement the diagnosis and treatment of previous providers. The absense of continuity can compromise effectiveness, decrease efficiency, and reduce the quality of interpersonal relations.

7. Safety

As a dimension of quality, safety means minimizing the risks of injury, infection, harmful side effects, or other dangers related to service delivery. Safety involves the provider as well as the patient. For example, safety is an important dimension of quality for blood transfusions, especially since the advent of AIDS. Patients must be protected from infection, and health workers who handle blood and needles must be protected by safety procedures. Additional safety issues related to blood transfusions include maintaining aseptic conditions and using proper techniques for transfusing blood. While safety may seem most important when complex clinical services are provided, there are safety concerns in the provision of basic health services as well. For example, health center waiting rooms can put clients at risk of infection from other patients if risk-reducing measures are not taken. If a health worker does not provide proper instruction on the preparation of oral rehydration solution (ORS), a mother may administer to her child ORS containing a dangerously high concentration of salt.

8. Amenities

Amenities refer to the features of health services that do not directly relate to clinical effectiveness but may enhance the client's satisfaction and willingness to return to the facility for susbsequent health care needs. Amenities are also important because they may affect the client's expectations about and confidence in other aspects of the service or product. Where cost recovery is a consideration, amenities may enhance the client's willingness to pay for services. Amenities relate to the physical appearance of facilities, personnel, and materials; as well as to comfort, cleanliness, and privacy. Other amenities may include features that make the wait more pleasant such as music, educational or recreational videos, and reading materials. While some amenities -- clean, accessible restrooms; and privacy curtains in examination rooms -- are considered luxuries in most LDC health care settings, they are nevertheless important for attracting and retaining clients and for ensuring continuity and coverage.

B. Perspectives on the Meaning of Quality

The definitions and dimensions outlined above constitute a broad conceptual framework that includes almost every aspect of the health system performance. All these dimensions come into play as clients, health providers, and health care managers try to define quality of care from their unique perspectives. What does quality of health care mean for the communities and clients that depend on it, the clinicians who provide it, and the managers and administrators who oversee it?

The Client

For the clients and communities served by health care facilities, quality care meets their perceived needs, and is delivered courteously and on time. In sum, the client wants services that effectively relieve symptoms and prevent illness. The client's perspective is very important because satisfied clients often are more likely to comply with treatment and to continue to use primary health services. Thus, the dimensions of quality that relate to client satisfaction affect the health and well-being of the community.

Patients and communities often focus on effectiveness, accessibility, interpersonal relations, continuity, and amenities as the most important dimensions of quality. However, it is important to note that communities do not always fully understand their health service needs--especially for preventive services--and cannot adequately assess technical competence. Health providers must learn about their community's health status and health service needs, educate the community about basic health services, and involve it in defining how care is to be most effectively delivered. Which decisions should be made by health professionals and which should be made by the community? Where does the technical domain begin and end? This is a subjective and value-laden area that requires an ongoing dialogue between health workers and the community. Answering these questions requires a relationship of trust and two-way communication between the parties.

The Health Service Provider

From the provider's perspective, quality care implies that he or she has the skills, resources, and conditions necessary to improve the health status of the patient and the community, according to current technical standards and available resources. The provider's commitment and motivation depend on the ability to carry out his or her duties in an ideal or optimal way. Providers tend to focus on technical competence, effectiveness, and safety. Key questions for providers may be: How many patients are providers expected to see per hour? What laboratory services are available to them, and how accurate, efficient, and reliable are they? What referral systems are in place when specialty services or higher technologies are needed? Are the physical working conditions adequate and sanitary, ensuring the privacy of patients and a professional environment? Does the pharmacy have a reliable supply of all the needed medicines? Are there opportunities for continuing medical education? Just as the health care system must respond to the patients' perspectives and demands, it must also respond to the needs and requirements of the health care provider. In this sense, health care providers can

be thought of as the health care system's "internal clients." They need and expect effective and efficient technical, administrative, and support services in providing high-quality care.

The Health Care Manager

Quality care requires that managers are rarely involved in delivering patient care, although the quality of patient care is central to everything they do. The varied demands of supervision and financial and logistic management present many unexpected challenges and crises. This can leave a manager without a clear sense of priorities or purpose. Focusing on the various dimensions of quality can help to set administrative priorities. Health care managers must provide for the needs and demands of both providers and patients. Also, they must be responsible stewards of the resources entrusted to them by the government, private entities, and the community. Health care managers must consider the needs of multiple clients in addressing questions about resource allocation, fee schedules, staffing patterns, and management practices. The multidimensional concept of quality presented here is particularly helpful to managers who tend to feel that access, effectiveness, technical competence, and efficiency are the most important dimensions of quality.

IV. What is Quality Assurance?

As the QA field has evolved and developed, various definitions of quality assurance have emerged. Dr. Donabedian broadly defines it as "all the arrangements and activities that are meant to safeguard, maintain, and promote the quality of care."[4] Drs. Ruelas and Frenk, who have conducted extensive QA work in Mexico, define it as "a systematic process for closing the gap between actual performance and the desirable outcomes. . . ."[5] According to Dr. Heather Palmer, a QA expert in U.S. ambulatory care, it is a "process of measuring quality, analyzing the deficiencies discovered, and taking action to improve performance followed by measuring quality again to determine whether improvement has been achieved. It is a systematic, cyclic activity using standards of measurement."[6] Dr. Donald Berwick, a U.S.-based clinician, is working to apply principles of continuous quality improvement (CQI) to health services. This approach to QA is an integrated organizational approach for meeting client needs and expectations involving both management and staff while improving processes and services using quantitative techniques and analytical tools. According to Berwick, it is ". . . a systematic managerial transformation designed to address the needs and opportunities of all organizations as they try to cope with increasing change, complexity and tension within their environments."[7]

All these definitions of QA share several characteristics. Each, for example, refers to a systematic, ongoing process that is oriented toward improving performance and using data in the process, either implicitly or explicitly. **In essence, quality assurance is that set of activities that are carried out to set standards and to monitor and improve performance so that the care provided is as effective and as safe as possible.**

Quality assurance is not a new "magic bullet," but has been a part of health care for the past 100 years. It was introduced into modern medicine by a British nurse, Florence Nightingale, who assessed the quality of care in military hospitals during the Crimean War. She introduced the first standards in nursing care; these resulted in dramatic reductions of mortality rates in hospitals.

Until recently, quality assurance was primarily used by hospitals in developed countries and relied heavily on standards of care developed by accrediting agencies. In the 1980s, quality assurance expanded to primary health care in the United States and Europe. Simultaneously, internationally accepted standards of care were introduced by diarrhea and acute respiratory infection (ARI) case management algorithms developed by WHO. After 1985, WHO and several projects such as PRICOR and CCCD began using systems analysis and facility assessments to assess the quality of care.

There has recently been a revolution in quality assurance approaches and an explosion of interest in developing national QA programs for several reasons:

- Democratization movements have led politicians to consider more carefully the demands of citizens for better quality care.
- Economic problems in all countries have limited their ability to improve quality by spending more. Countries have realized that improvements in quality must come by improving the efficiency and effectiveness of current resources.
- Managers see the need for more cost recovery, but realize that it will be difficult to charge for services unless the quality is improved.
- The success of quality management approaches employed by industry in Japan, and recently in the United States and Europe, has inspired health care organizations to apply these same methods to their quality assurance programs. After only five years, there are dramatic examples of the improvements in quality and efficiency that can be achieved.

Recent experience in applying quality management to health care systems suggests that four tenets should be adhered to in an ideal quality assurance program:

The Four Tenets of Quality Assurance

- Quality Assurance is oriented toward meeting the needs and expectations of the patient and the community.
- Quality assurance focuses on systems and processes.
- Quality assurance uses data to analyze service delivery processes.
- Quality assurance encourages a team approach to problem solving and quality improvement.

Quality assurance is oriented toward meeting the needs and expectations of the patient and the community. Quality assurance requires a commitment to finding out what patients and the community need, want, and expect from the health services. The health team must work with communities to meet service demand and to promote acceptance of needed preventive services. Subsequent program planning and quality improvement efforts should be evaluated according to these needs and expectations. Quality assurance also requires that health workers' professional needs and expectations be met.

Quality assurance focuses on systems and processes. By focusing on the analysis of service delivery processes, activities, and tasks as well as outcomes, quality assurance approaches allow health care providers and managers to develop an in-depth understanding of a problem and to address its root causes. Rather than merely treating the symptoms of a quality-related problem, quality assurance seeks to find a cure. In the advanced stages of a QA program, the health center team can go even further by analyzing processes to prevent problems before they occur.

Quality assurance uses data to analyze service delivery processes. Simple quantitative approaches to problem analysis and monitoring are another important aspect of quality improvement. Data-oriented methods allow the QA team to test its theories about root causes; effective problem solving should be based on facts, not assumptions.

Quality assurance encourages a team approach to problem solving and quality improvement. Participatory approaches offer two advantages. First, the technical product is likely to be of higher quality because each team member brings unique perspective and insight to the quality improvement effort. Collaboration facilitates a thorough problem analysis and makes development of a feasible solution more likely. Second, staff members are more likely to accept and support changes that they helped to develop. Thus, participation in quality improvement builds consensus and reduces resistance to change.

It is important to note that the definition of QA can be extremely broad and can include all program management activities. QA can include everything from applied research to comprehensive management assessments and interventions. In practice, the scope of a QA effort depends on the needs and capacities of the health service organization. Usually, the QA effort will be developed as a limited activity that is integrated into the existing management system. However if an organization desires a comprehensive approach, a QA initiative can be developed as a component of a general management improvement effort or a total quality management system.

V. The Quality Assurance Process

The QA process is based on QAP's experience working with health services in developing countries. However, it also integrates lessons learned from earlier quality assurance methodologies. A.I.D.'s PRICOR Project developed a simple, practical approach to quality improvement that was applied in Africa, Asia, and Latin America. WHO has promoted a QA paradigm developed by Hannu Vuori that has been applied in selected international settings.

Some U.S. models include the quality assurance cycle used by Palmer in ambulatory care settings; the 10-step process developed by the Joint Commission on Accreditation of Health Care Organizations; and CQI which applies total quality management to health services. The QAP quality improvement model attempts to integrate the strengths of the various models into a simple, logical process for planning and implementing QA activities. Consistent with earlier models, QAP's quality improvement model defines norms, conducts an assessment, works with health care providers in a participatory fashion, takes action based on the assessment, and monitors results. Perhaps most important, it puts forth a replicable process for improving the quality of health care service delivery. This process can, over time, be integrated into ongoing program management. (See box below.)

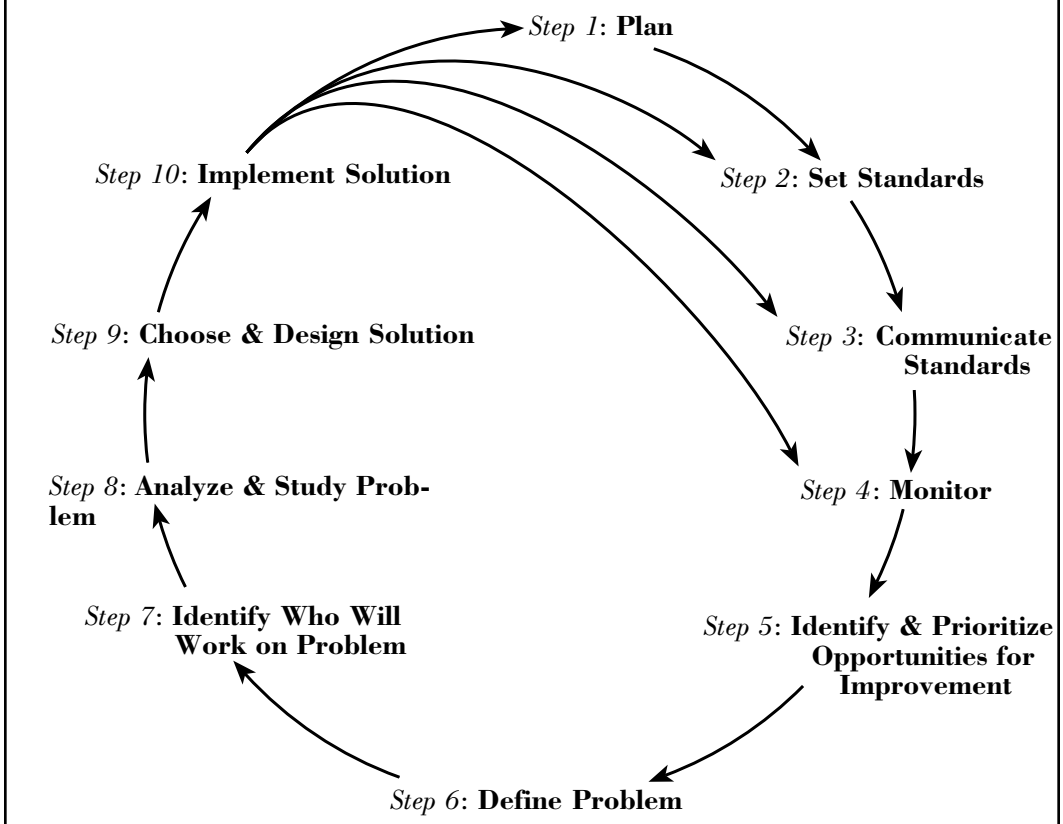
QAP's Quality Assurance Process

1. Planning for quality assurance
2. Developing guidelines and setting standards
3. Communicating standards and specifications
4. Monitoring quality
5. Identifying problems and selecting opportunities for improvement
6. Defining the problem operationally
7. Choosing a team
8. Analyzing and studying the problem to identify its root causes
9. Developing solutions and actions for improvement
10. Implementing and evaluating quality improvement efforts

Many health center teams will find that they are already taking steps toward improving quality, although they might not use the term "quality assurance" to describe their activities. The time and effort required for each step will depend on which QA activities are already in place. For example, an organization that has an existing monitoring system will spend less time on Step 4--monitoring quality--than an organization that is monitoring quality for the first time. During Step 2--developing guidelines and setting standards--some organizations may review existing norms or practice guidelines; others may need to spend considerable time developing norms before a quality improvement effort can begin. It is important for an organization new to QA to go through all steps, at least in a cursory way. This will ensure that essential components will not be missed and all those involved in the process will receive essential information.

In practice, QA is a cyclical, iterative process that must be applied flexibly to meet the needs of a specific program. (See box below.) The process may begin with a comprehensive effort to define standards and norms as described in Steps 1-3, or it may start with small-scale quality improvement activities (Steps 5-10). Alternatively, the process may begin with monitoring (Step 4). Some teams may even choose to simultaneously begin in two places. For instance, comprehensive monitoring and focused problem solving may start as a coordinated, parallel effort. The ten steps in the QA process are discussed in the following section.

Quality Assurance Cycle



1. Planning for Quality Assurance

This first step prepares an organization to carry out QA activities. Planning begins with a review of the organization's scope of care to determine which services should be addressed. For most organizations, it is impossible to improve quality in all areas at once. Instead, QA activities are initiated in a few critical areas. High-priority, high-volume, or problem-prone services are often selected for special attention at the start of a QA program.

Once organizational leaders have decided where the QA effort will begin, they must select a quality improvement approach. They may focus on monitoring desired or adverse outcomes, or they may study service delivery and support processes to determine areas for improvement. Another component of planning is assigning responsibilities for the QA activities. This may entail forming a QA committee or an ad hoc team responsible for initial QA activities.

If the program mission is unclear or unresponsive to community needs, or if overall planning in an organization is weak, in-depth strategic planning might be required. Strategic planning begins with defining the organization's mission. The next step is to assess the opportunities and constraints in the external environment as well as the organization's internal strengths and weaknesses. Strategic planning produces a clear vision of what the organization must do to achieve its mission in the light of its environment. The organization can then determine QA priorities based on the program mission and vision.

2. Setting Standards and Specifications

To provide consistently high-quality services, an organization must translate its programmatic goals and objectives into operational procedures. In its widest sense, a "standard" is a statement of the quality that is expected. Under the broad rubric of standards there are practice guidelines or clinical protocols, administrative procedures or standard operating procedures, product specifications, and performance standards.

Practice guidelines, sometimes called clinical protocols or practice parameters, define how clinical processes such as antenatal care are carried out. Guidelines are defined as "systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances."[8] **Administrative procedures**, sometimes called standard operating procedures, define routine nonclinical processes. **Specifications** usually pertain to product characteristics or material inputs such as drugs or technical equipment related to health service delivery.

Performance standards are specific criteria used to measure the outcome of service delivery and the activities that support it. They are also used to measure compliance with guidelines. These standards differ from guidelines or standard operating procedures; they are designed to evaluate practice rather than to assist practitioners and patients. Standards have been defined as "authoritative statements of (1) minimum levels of acceptable performance or results, (2) excellent levels of performance or results, or (3) the range of acceptable performance or results."[9] Standards can be related to the care process by measuring health outcomes or guideline compliance. While health outcomes are sometimes difficult and costly to measure, it is often possible to monitor intermediate outcomes such as utilization or coverage

in assessing program effectiveness. Performance standards form the core of the monitoring system, as discussed in Step 4.

Guidelines, standard operating procedures, and performance standards should be developed for both clinical and management areas. They should reflect the perspectives of their communities and health care specialists. Both perspectives are essential to ensure the effectiveness of planned activities and their accessibility and acceptability to the community. Program staff should periodically review and revise guidelines and standard procedures.

For some programs, setting standards and specifications involves a simple review of current guidelines and standard operating procedures to ensure that they are up-to-date. For others, it may be important to develop consensus among professionals to ensure support. Others may require creating new guidelines and standards. In such cases, some widely accepted resources are available. For example, WHO helps in defining service delivery protocols appropriate for health centers and small hospitals in developing countries. The PRICOR Project developed clinical guidelines for use in primary health care in developing countries. The PRICOR Thesaurus sets forth guidelines for seven child survival services: immunization, oral rehydration therapy, prenatal care, family planning, growth monitoring, treatment of acute respiratory infections, and malaria. The project also developed guidelines in seven management areas: planning, supervision, training, logistics, financial management, management information systems, and community organization. In sum, the Thesaurus is a useful reference for setting standards.[10]

Health workers at all levels should participate in developing guidelines and setting standards. Because health workers often understand local conditions better than high-level managers, the resulting guidelines are likely to be more appropriate and effective. Also, staff participation will generate commitment to quality because health workers are more likely to implement and support an effort that they have helped to develop. Finally, staff members are more likely to accept QA activities if they have been involved in defining quality. Their standards will become the measure for judging the quality of their services.

3. Communicating Guidelines and Standards

Once practice guidelines, standard operating procedures, and performance standards have been defined, it is essential that staff members communicate and promote their use. This will ensure that each health worker, supervisor, manager, and support person understands what is expected of him or her. This is particularly important if ongoing training and supervision have been weak or if guidelines and procedures have recently changed. Assessing quality before communicating expectations can lead to erroneously blaming individuals for poor performance when fault actually lies with systemic deficiencies. Additionally, QA efforts that begin with a surprise examination are likely to cause suspicion rather than support.

Managers and the health center team share a mutual responsibility for quality; the notion of this partnership should be communicated along with guidelines and standards. A dialogue about guidelines and standards can take place in the context of supervision, training, or

other channels. Activities that communicate guidelines and standards include developing job descriptions, translating performance guidelines into job aids, developing and conducting training programs, holding formal conferences or informal presentations about new procedures, providing on-the-job training through supervisory activities, and informing providers of changes in protocols through administrative announcements.

4. Monitoring Quality

Monitoring is the routine collection and review of data that helps to assess whether program norms are being followed or whether outcomes are improved. By monitoring key indicators, managers and supervisors can determine whether the services delivered follow the prescribed practices and achieve the desired results. QA involves a new process orientation that has profound implications for monitoring and collecting data in LDCs. Outcome measures alone, or other service statistics that are generally part of LDC monitoring systems, offer limited guidance in problem solving. Detailed assessment of *processes* through special comprehensive studies or routine assessments can provide useful information about specific service delivery problems.

The monitoring system is central to a QA program. Unfortunately, existing data collection systems in many developing countries can be difficult to use for QA. At some point, existing monitoring systems may require redesign. However this is not recommended as an initial activity; it is likely to be very time consuming and to meet resistance. It is often better to involve program staff members in using data to solve problems (see Steps 5-11) and to work with them in redesigning their system.

Designing (or redesigning) a monitoring system requires translating statements about expected quality into measurable indicators. It also demands setting performance thresholds, selecting information sources, designing a system for collecting data and compiling results, and carrying out monitoring activities. (Each of these activities is briefly discussed below.) It is important to define which data are to be used at the various levels in the system. For example, a front-line supervisor may collect a great deal of information about service quality and delivery, but may summarize only some of this information for higher-level managers. Generally, all levels of staff should be involved in designing a monitoring system so that everyone receives all necessary information.

- ***Selecting indicators*:** An indicator is a measurable characteristic of actual system performance that determines the extent to which desired outcomes are achieved, or the degree to which guidelines and standard operating procedures are adhered. Indicators are used to monitor the quality or appropriateness of important clinical and management activities. It is unnecessary to choose an indicator for every standard or specification. The number of indicators should be minimized when assessing key processes and identifying potential problem areas.
- ***Setting thresholds*:** Thresholds define a program's acceptable performance levels, as measured by indicators, at a given point in time. They allow program staff to

detect potential problems or areas for improvement. Performance thresholds can be based on clinical or medical knowledge of risks or on what is operationally feasible. For example, some immunization programs set 80 percent coverage as a threshold. The acceptable level of performance is relative and should be revised as conditions and priorities change. The role of thresholds is to trigger action when the monitored indicators suggest inadequate program performance. Performance thresholds are not needed in all cases and should be set only after consultation with program staff.

It is important to note the potential drawbacks of using thresholds in a quality improvement effort. Rather than encouraging continual improvement, using thresholds may give the mistaken impression that some errors are acceptable and that, once met, there is no need for further improvement. In spite of these potential drawbacks, performance thresholds, used correctly, can help teams to set priorities and can promote gradual improvement.

- ***Selecting information sources*:** Because many organizations already collect data, the first information source to examine is the existing information systems. Sometimes it is possible to make a minor change that would provide information without major efforts. Other information sources include suggestion boxes, complaint registers, clinical records, health center registers, interviews, facility review, and job performance observations. Because monitoring is a routine exercise, additional data collection should be kept to a minimum. It is especially important to minimize the burden of data collection on peripheral health workers. Generally, health workers should not be asked to collect data that they cannot use in their work. Data that are used at the local level and then compiled for higher-level managers are more likely to provide a basis for a constructive dialogue between health workers and managers about problems and priorities.

- ***Designing a system for collecting and compiling data*:** It is important to specify who will collect and compile the data, determine the frequency of collection and compilation, and develop a mechanism and schedule for disseminating the results. This system should be developed with staff participation at all levels, and it should be periodically reviewed. Over time, staff members should become adept at self-monitoring, relying less on district- and central-level managers.

- ***Implementing the monitoring activities*:** Once the system has been designed and responsibility has been assigned, data collection and compilation can begin. During the initial phase of a monitoring system, health workers will need assistance in collecting and using data. This support is essential if monitoring is to serve as a screening tool.

  Rather than constantly monitoring all activities, monitoring systems might use an index of activities or *tracer conditions* that cover various program dimensions. For example, a program manager could monitor immunization, hypertension, and treatment of pneumonia. Together, these tracer conditions might cover preventive services and management of chronic and acute illness, encompassing both child and

adult care. Eventually, the conditions monitored should be rotated or modified to meet the community's changing needs. They should also expand with the QA effort. It is important to limit the monitoring system by emphasizing the collection and use of only essential data.

Systems analysis is another assessment method that can be used to identify service delivery problems. The service quality assessment technique originally applied to LDC primary health care by PRICOR consists of a comprehensive assessment of standard procedures and health worker performance. It is based primarily on observing actual or simulated performance. Such systems analyses can be carried out as a baseline in identifying and measuring major problems before a QA program is launched. They can also be carried out periodically, in whole or in part, to evaluate general improvement and to prove the validity of program institutionalization.

5. Identifying Problems and Selecting Opportunities for Improvement

Program managers can identify quality improvement opportunities by monitoring and evaluating activities. With effective monitoring systems, health programs can conduct special community or patient surveys or comprehensive assessments such as PRICOR II's systems analysis methodology.[11] These studies highlight specific service delivery problems requiring attention. Other means include soliciting suggestions from health workers, performing system process analyses, reviewing patient feedback or complaints, and generating ideas through brainstorming or other group techniques. Employing a participatory approach to problem identification offers several advantages. First, the quality of the assessment and preliminary analysis is likely to be superior because those who are directly involved with the processes are participating. Second, staff members are more likely to contribute and to cooperate if they are involved in identifying problems.

Once a health facility team has identified several problems, it should set quality improvement priorities by choosing one or two problem areas on which to focus. Selection criteria will vary from program to program. Two important principles should guide this process. The criteria should reflect team, not individual, priorities. They should also be explicit so that the decision-making process is as objective and as thorough as possible. Criteria might include the technical feasibility of addressing the problem, the potential impact of improving quality on the population's health, or the adequacy of the necessary available resources.

PRICOR II's quality improvement work in developing countries resulted in some noteworthy insights about priority setting. First, the problem must be within the scope of responsibility and authority of those carrying out the QA effort. Trying to change something that is outside local control is a frustrating experience that has little hope for success. In the same vein, it is often preferable to begin QA efforts by focusing on a smaller, manageable problem rather than on a large, complex one. Tackling a solvable problem encourages confidence in the QA process.

Teams can select priorities using various group decision-making techniques such as ranking and voting exercises or decision matrices that consider several criteria in the priority-setting process.

6. Defining the Problem

Having selected a problem, the team must define it operationally--as a gap between actual performance and performance as prescribed by guidelines and standards. The problem statement should identify the problem and how it manifests itself. It should clearly state where the problem begins and ends, and how to recognize when the problem is solved. Developing a problem statement is a crucial step in the QA process, and its apparent simplicity is deceptive. Often, the initial formulation of a problem will include only the cause of a problem--"we don't have a laboratory"--or its premature solution--"we need more staff." Sometimes problems are too general to permit concrete, incremental action--"we don't work as a team." Problem statements also may err by focusing on blame rather than on the problem description--"nurses are not willing to be polite to patients." Problems should explicitly relate to the quality of services or the health of the population. They should refer to specific processes or activities so that the improvement effort is well focused and measurable.

Problem definition is an iterative process: as team members attempt to define a problem, they will be forced to rethink many of their steps. They may decide to narrow the problem or choose to address one cause of a multifaceted problem. While defining a concrete operational problem, team members are likely to vacillate between large, unmanageable problems and the smaller one that they are trying to define. They may even feel that the discrete operational problem they are defining is not worth addressing because it is such a small part of the wider problem. It is important for a team to take the time to develop clarity about the problem and consensus about its importance. Without these ingredients, the QA effort will stall.

The examples provided on the top of page 19 illustrate how problem statements can be reformulated to show the relation to service quality.

7. Choosing a Team

Once a health facility staff has employed a participatory approach to selecting and defining a problem, it should assign a small team to address the specific problem. The team will analyze the problem, develop a quality improvement plan, and implement and evaluate the quality improvement effort. The team should comprise those who are involved with, contribute inputs or resources to, and/or benefit from the activity or activities in which the problem occurs. This ensures the involvement of those most knowledgeable about the process.

Poor Problem Statement	Weakness in Problem Statement	Improved Problem Statement
Problem 1: We do not have a laboratory.	Problem statement contains only a cause.	While suspected cases of TB should have a sputum test, at present only 25 percent of cases are being tested.
Problem 2: We need more staff.	Problem statement contains a premature solution.	Thirty percent of the patients arriving at the clinic are sent home without receiving care.
Problem 3: We do not work as a team.	Problem statement is too vague for concrete action.	Health center team members do not plan and schedule outreach clinics together.

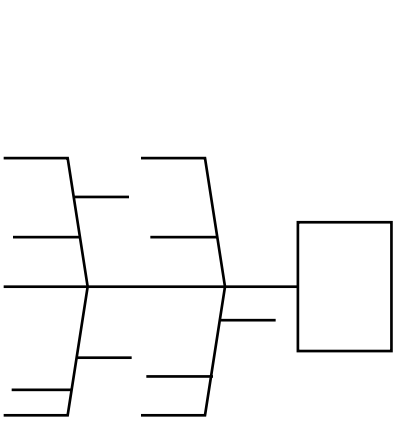
Learning to work effectively as a team is a challenging and continuous process. Health center teams often will need training in basic skills related to planning and facilitating meetings, communicating effectively, making group decisions, and resolving conflict. Building a high-performance team takes time, requiring patience and persistence.

8. Analyzing and Studying the Problem to Identify the Root Cause

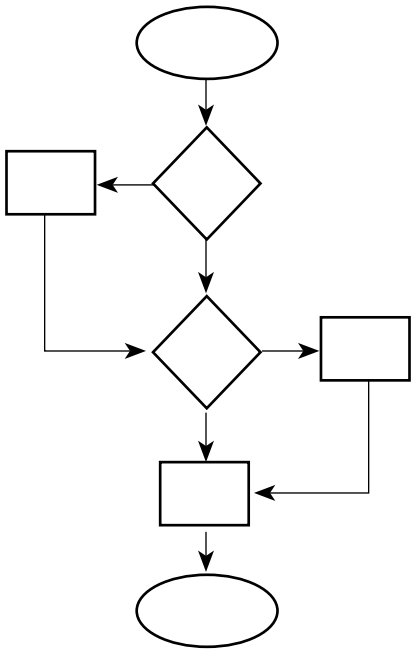
Achieving a meaningful and sustainable quality improvement effort depends on understanding the problem and its root causes. Given the complexity of health service delivery, clearly identifying root causes requires systematic, in-depth analysis. Analytical tools such as system modeling, flow charting, and cause-and-effect diagrams can be used to analyze a process or problem. (See box below.) Once several potential causes are identified, the team should determine which ones are the most damaging, since two or three causes may be responsible for up to 80 percent of quality problems. By addressing these critical causes, a problem-solving team can realize significant improvement with minimal effort.

Analytical tools alone will not always provide enough information. A problem-solving team may need to conduct an in-depth examination. Such studies can be based on clinical record reviews, health center register data, staff or patient interviews, service delivery observations, or any combination of the above. These studies must go beyond documenting the problem; they should examine root causes.

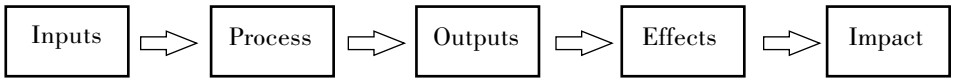
Analytical Tools



Cause and Effect



Flowchart

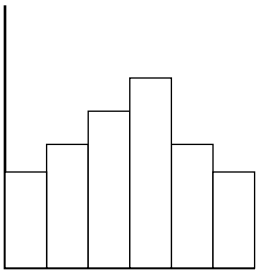


Systems Model

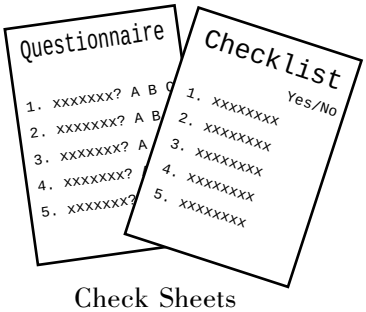
At this stage, problem-solving teams often employ some basic statistical tools. These may include check sheets, histograms, scattergrams, pareto charts, run charts, and control charts. (See box below.) The check sheet is a data collection tool used in assessing variables related to a specific process. The resultant data can be presented in a histogram that assesses the extent of variation, in a distribution scattergram that indicate trends, or in a pareto chart that classifies problems according to cause in descending order of importance. Run charts make it easy to monitor change in a process over time. Control charts help to monitor variation and provide clues that can help to identify the type of variation. Some causes are inherent to the process, while others have their roots outside the process.

Statistical Tools

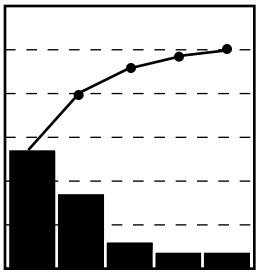
Run Chart



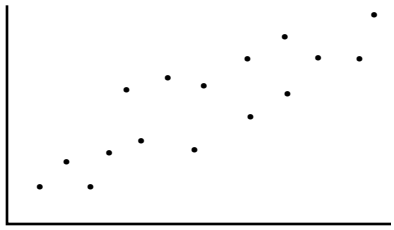
Histo-gram



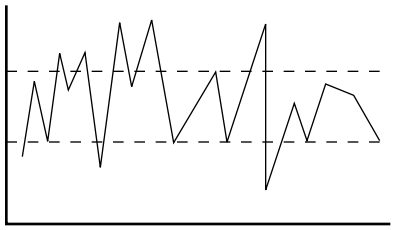
Check Sheets



Pareto Chart



Scattergram



Control Chart

9. Developing Solutions and Actions for Quality Improvement

The problem-solving team should now be ready to develop and evaluate potential solutions. Unless the procedure in question is the sole responsibility of an individual, developing solutions should be a team effort. It may be necessary to involve personnel responsible for processes related to the root cause.

Solutions to quality problems or quality improvement activities can take several forms. A solution may be very straightforward: it may be as simple as reminding staff about clinical guidelines through supervision or focused in-service training. Solutions may also take the form of job aids such as wall charts and checklists. They become part of the process that provides information and checks at the point of service delivery, thereby reducing error or variation. Often, solutions and improvements are rooted in management systems related to supervision, training, and logistics.

Some problems, however, are more difficult to solve because they require procedural redesign. This should be considered if the team determines that there is no existing process in the problem area or that the defined process is not responsive to the clients' needs and expectations. In such cases, tools such as flowcharts and design matrices can be very helpful in designing solutions that build on the strengths of existing practices and take client requirements into account.

Problem-solving teams are encouraged to think creatively and to generate a variety of solution options. Choices among potential solutions should be based on an examination of the option's potential costs and effectiveness. Teams may employ techniques such as multiple criteria utility assessment or multivoting to help them in evaluating solutions and making a decision. The team also should gauge potential opposition to change and develop a plan to minimize resistance.

10. Implementing and Evaluating Quality Improvement Efforts

Implementing quality improvement requires careful planning. The team must determine the necessary resources and time frame and decide who will be responsible for implementation. It must also decide whether implementation should begin with a pilot test in a limited area or should be launched on a larger scale. A pilot project is merited if the solution requires substantial resources or if there is considerable uncertainty about the solution's potential effectiveness.

The team should select indicators to evaluate whether the solution was implemented correctly and whether it resolved the problem it was designed to address. In-depth monitoring should begin when the quality improvement plan is implemented. It should continue until either the solution is proven effective and sustainable, or the solution is proven ineffective and is abandoned or modified. When a solution is effective, the teams should continue limited monitoring. Teams should modify solutions as needed and should fully document results and lessons learned.

Once the solution has proved to be effective, program managers should codify and disseminate the new process so that others can learn from the experience. The QA team should also make plans to identify a new problem, either through a team process or through data generated by an existing monitoring system. The team may then repeat the quality improvement cycle.

VI. Building a Quality Assurance Program

A QA program is a comprehensive set of quality assessment and improvement activities that is incorporated into an organization's routine management functions. As health care organizations learn more about the QA process, they are likely to discover that some of their current activities are related to quality improvement. In fact, most organizations already do some type of QA. These existing activities provide a foundation upon which to build a comprehensive QA program. The previous section describes how program managers and staff can conduct quality-related activities more thoroughly. The following section discusses how QA can be permanently integrated into health program management in developing countries.

There are two distinct approaches to building a QA program. The first is the comprehensive QA strategy; the second is the problem-oriented strategy. The two approaches are contrasted here to provide an overview of the wide range of strategic options available to program managers. In practice, most organizations will want to combine these approaches as they introduce quality assurance.

In the comprehensive approach, QA policies, procedures, and processes are implemented simultaneously, starting at the top and moving down the organizational structure. A comprehensive approach typically begins with a thorough review of standards and specifications. This may be followed by an assessment of health care and support services. This assessment may be conducted through an existing management information system or through a monitoring system specifically developed to measure service quality. Start-up also includes an extensive training effort to strengthen technical competencies and to impart quality improvement knowledge and skills.

Comprehensive service quality assessments are useful in countries where information systems are inadequate. Systems analysis allows managers to use interviews and observation to assess primary health care services and their associated support activities. Priority areas for quality improvement can be identified based on the results of comprehensive monitoring or systems analysis. The comprehensive approach works best when there is a commitment throughout the system to addressing quality of care and when organizations have the necessary resources to implement a QA program on a large scale.

The problem-oriented approach to QA emphasizes practical, small-scale, quality-related activities that produce incremental quality improvements. Rather than carrying out a comprehensive assessment, individuals or teams focus on a single problem that is important to them. In this model, comprehensive assessment and monitoring are de-emphasized in favor of immediate action. This is based on the assumption that monitoring systems and a more systematic approach can be developed over time once problem solving has become part of the organizational culture. Often, the problem-oriented approach is introduced early at a few clinics rather than throughout the organization. This allows an organization to modify and adapt the problem-solving strategy before wider implementation.

With careful planning, problem-orientation can evolve into a more comprehensive approach. Eventually, all types of services can be covered by the QA effort and a simple monitoring

system can be emplaced. It is also important to note that a comprehensive approach can benefit from some small-scale, problem-oriented activities. One danger of an exclusively comprehensive approach is that staff at all levels may grow impatient with the tedious process of setting up systems and of participating in training activities that do not yield immediate, concrete results. Potential resistance can be averted by conducting small-scale, quality improvement activities that demonstrate quick, short-term outcomes. Also, these results can be incorporated into training efforts, thus providing local examples of QA.

There is no recipe for developing a QA program. It is a creative process that requires flexibility in order to adapt to a given health program's unique features. This section describes key activities that are usually carried out in building a QA program. Most of the key activities described take place concurrently, and many must be continually renegotiated as the program evolves and conditions change.

Key Activities in the Development of a Quality Assurance Program

- Foster commitment to quality
- Conduct a preliminary review of QA-related activities
- Develop the purpose and vision for the QA effort
- Determine level and scope of initial QA activities
- Assign responsibility for QA
- Allocate resources for QA
- Develop a written QA plan
- Strengthen QA skills and critical management systems
- Disseminate QA activities
- Manage change

A QA program may be developed gradually through a carefully planned, phased process, or it may be implemented in one step as part of a fundamental organizational change. A gradual, phased approach is frequently appropriate for organizations with rudimentary management systems.

Foster Commitment to Quality

Building a permanent QA program requires the early support of top- and mid-level managers. Over time, this commitment to QA should be shared by all staff and reflected in the organization's mission, purpose, and procedures. The process of fostering and developing commitment is not an isolated activity; it must continue throughout the life of a project and at all levels of the organization.

Commitment is developed by raising awareness and by fostering a dialogue among top-level managers. This can be done through awareness-raising seminars, special planning meetings, or one-to-one discussions with an organization's leaders. During the awareness-raising process, basic concepts are introduced that relate to quality and quality assessment and improvement methods. Discussing the importance of quality and presenting empirical information about quality problems at the local level can also foster commitment.

Conduct a Preliminary Review of Quality-Related Activities

Before introducing new QA activities, it is important to conduct an initial review of the organization and to develop a general description of the existing system. This review will allow the new QA effort to build on existing strengths.

QA efforts will likely be sustained if they are built into the existing system in a logical way. For example, an existing supervisory system that monitors compliance with technical norms is a logical place to begin QA activities. Failing to recognize such an opportunity can result in turf battles between managers and in confusion among service providers. One important function of the initial assessment is to determine the best place in the organization to launch a QA initiative.

This preliminary analysis can include the following:

- Review of the program's clinical and managerial standards or norms. Are they technically sound? Are they appropriate for local conditions? Are they complete? Are they up-to-date? Are they available to staff?
- Assessment of the quality of service currently provided, and patient and community satisfaction with the services.
- Review of the supervisory system and related management activities to determine which type of QA is already in place. What problems are faced by supervisors? Are they able to solve them?
- Examination of the management information system. Consider the scope, validity, sensitivity, specificity, and reliability of the indicators currently being monitored. Are data used for management and decision making? Could the existing data be used to support a QA program?
- Review of existing training capacity. Could training be carried out by the organization or would outside help be needed? Do current training programs include skills that could be used in QA?
- Study of the organizational structure. Profile the organization's lines of communication and authority. Who is doing QA now? Who should be doing QA?
- Assessment of the adequacy of facilities, logistics, and equipment.

Different approaches can be used to conduct a preliminary assessment. Depending on the resources available, the assessment can be a comprehensive study. It may include collecting new data or a rapid assessment based on available data and the expert opinion of key informants.

Develop the Purpose and Vision for the Quality Assurance Effort

Building commitment to QA within an organization requires that top managers and their staff share an overall vision of quality improvement. The purpose of a vision statement is to build consensus between managers and to set boundaries for the QA effort. The vision statement will help staff at all levels to understand how their day-to-day work relates to quality improvement. It can be developed through a variety of consensus-building techniques that can be employed by the senior management team. The vision statement should be developed at the QA effort's outset and revised periodically if there are strategic changes in the organization or if there is a significant staff turnover.

Determine Level and Scope of Initial Quality Assurance Activities

The level and scope of initial QA activities depend on the resources available, the implementation time frame, and the receptivity of management and program staff to the idea of QA. An organization must also consider external political factors.

A QA effort can be implemented at the national, regional, and district level or within a single health facility. Where services are organized as vertical programs, one program may be the focus of initial QA activities.

An organization must also use a small-scale effort such as a pilot study or series of demonstration projects in testing QA strategies and in learning more about their local application. Small-scale efforts are often attractive to managers because they offer progress at little risk, and because successful programs can be replicated or expanded. Unfortunately, it is frequently difficult to replicate developed models, often because the demonstration sites have advantages over the rest of the organization.

Assign Responsibility for Quality Assurance

To ensure continuity, accountability for QA activities must be clear, and QA must be a prominent organizational emphasis. In some organizations a single person may be responsible for QA, while in others it may be the domain of quality committees. Occasionally, an existing committee or management body will take on responsibility for QA, integrating it into the general management structure. In others, a QA program will be established whose role is defined in relation to other departments. The titles of those responsible for QA should denote a facilitative rather than a directive role; they might be called quality coordinators, coaches, or advisors. QA coordinators and the QA committee are responsible for monitoring and supporting QA activities, providing technical assistance to teams, assigning staff to develop indicators, and facilitating communication about QA issues between top-level management and staff.

Allocate Resources for Quality Assurance

Local resources must be allocated to quality assurance in order for a QA program to become a permanent part of a health care organization. Often, the initial QA effort may depend on outside technical and financial assistance. Over time, the organization should support its own QA program with minimal dependency on external resources. While QA efforts may not become self-financing immediately, organizations should weigh resource considerations in the design phase. Externally funded QA activities should be designed so that they can be replicated with local resources. It is important to note that even QA programs that are to be integrated into an existing management system often need initial resources to support training and miscellaneous costs. While the QA staff may be the same as the management staff, it will need resources earmarked for new activities. QA staff may travel more to health service facilities or may require additional materials for data collection maintenance.

Develop a Written Quality Assurance Plan

A QA plan is a written document that describes the program objectives and scope, defines lines of responsibility and authority, and puts forth implementation strategies. The plan should help staff members to relate quality goals and objectives to their routine activities. It should also be a living document that is regularly referred to and revised.

Strengthen Quality Assurance Skills and Critical Management Systems

QA activities are an important part of management and may occasionally be reformulated into a total quality management system. In general, however, QA efforts will focus more narrowly on three critical management systems: supervision, training, and management information systems. Special effort should be made to strengthen these systems as a QA program develops.

Organizations should develop supervision systems that not only evaluate and manage activities, but also support health workers through a process of professional growth. In the long term, this approach can lead to self-managed, self-directed individual and collective work. While this may seem difficult, it is necessary since many health providers in developing countries work at the periphery without daily supervision. Supervisors can take the lead in QA efforts by providing an example of participatory leadership and problem-solving skills; over time, health workers can initiate quality improvement activities. Methods for self-management and concurrent QA such as health worker and supervisor self-assessments and other job aids can be introduced by the supervisor to improve performance.

The training system should incorporate competency-based training for specific routine tasks, including service delivery, counseling, and health education, as well as for management support services. Besides improving training in skill areas essential for high-quality services, the training capacity should be developed and expanded to include such QA skills as problem solving, evaluation, and teamwork.

It is also important to revise the management information system so that it serves as an effective QA monitoring system. This can be done early or late in the QA process, when managers and staff have an idea of what information they need and how to use it more effectively. Resistance to change in this area may be easier to manage after the QA program has achieved some initial successes.

Disseminate QA Experiences

Early in the life of a QA program, a dissemination strategy should be devised to share experiences inside and outside the organization. Some dissemination programs use **newsletters** that contain educational articles and project progress reports. Newsletters also serve as an effective way to recognize the initiative of local individuals and groups. **Conferences** at the local regional, national, and international level can also be effective because they reinforce success, encourage dialogue and creativity, and generate political momentum for the program. Developing a **Quality Assurance Resource Center** is another effective dissemination strategy. Making information about QA methods and experiences available to staff will encourage initiative and will accelerate the learning rate. Resource centers are particularly important for program leaders and trainers because they offer valuable self-study programs. Participation in professional societies such as local medical and nursing associations or the International Society for Quality Assurance are also an excellent way to disseminate QA-related experiences.

Storytelling is a potent dissemination tool for documenting the quality improvement efforts of local teams. It is an accurate and appealing way to document quality improvement, employing graphic techniques that eliminate the need for laborious report writing. Typically, a team can keep a "story book" that includes the problem statement, a list of team members, a problem-related flow chart and cause-and-effect diagrams, and related data. It can also include monitoring data and a description of the solution. This information can be included in a "story board" or poster, which is displayed in a visible place so that other staff members can keep track of the team's progress. This format can be used at the health center, in formal presentations within the organization, or in a conference setting. Together, these quality improvement stories constitute a powerful endorsement of the QA program and methodology.

Manage Change

Resistance is almost inevitable when trying to implement a QA program. Initially, some managers and staff fear criticism, loss of power, and change itself. Staff members who are new to leadership and decision-making roles may be fearful or nervous about their new responsibilities. Even healthy changes involve discomfort, uncertainty, and conflict. To minimize resistance, a careful, phased approach to change is required and an open and trusting environment must be cultivated. Although change management strategies must be adapted to meet each organization's needs, several recommendations are generally applicable.

Endnotes

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[9] ibid.

[10] Copies can be obtained by writing to Center for Human Services, 7200 Wisconsin Avenue, Suite 600, Bethesda, MD 20814, U.S.A.

[11] The comparative analyses summarize the work of PRICOR II:

Burns Jaeger, Janice, Franco, Lynne Miller, and Newman, Jeanne S., "Oral Rehydration Therapy in Diarrheal Disease Control: A Review of Experience in Eight Countries," September 1990.

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