THE REPUBLIC OF UGANDA

MINISTRY OF HEALTH

THE QUALITY IMPROVEMENT METHODS: A MANUAL FOR HEALTH WORKERS IN UGANDA

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Foreword

The Government of Uganda is committed to improving the quality of health care services in Uganda through the provision of affordable, safe and efficacious medical interventions. Good quality of care enhances clients' satisfaction and their use of services. It increases job satisfaction and motivation among health workers, leading to effective and efficient utilization of resources.

In order to increase health workers awareness and understanding of quality and the quality of care concepts, the Quality Assurance Department revised the Manual of Quality Improvement Methods, 2000 edition into this second edition of the Manual of Quality Improvement Methods for Health Workers. The quality of care concepts and examples described in this manual have been adopted from different global contexts and customized to the local context of health service delivery.

In order to cultivate a culture which pursues excellence and rejects poor quality, it is essential that politicians, professionals, and the community work together as a team. This culture of quality will become the basis upon which health services provided will continuously improve, and result in a better health outcomes for the service users.

It is my hope that this manual will be useful to all stakeholders to institutionalize and promote the culture of quality improvement in our health care system especially, the District Health Management Teams and Hospital Managers who supervise and support health services delivery, the health workers who are involved in the day to care of patients, as well as being useful to the Ministry of Health and other partners planning and supporting delivery of health services.

I wish to recognize the efforts and congratulate all those who supported the revision and printing of this manual especially, the Quality Assurance Department, National Quality Improvement Coordination Committee and Health Development Partners in particular USAID - ASSIST.

For God and My Country

Dr. Jane Ruth Aceng
Director General Health Services

ACRONYMS

ART	Anti-retroviral Therapy
CBO	Community Based Organisation
CSO	Civil Society Organisation
CQI	Continuous Quality Improvement
DGHS	Director General Health Services
DHO	District Health Officer
DHT	District Health Team
DP	Development Partner
GoU	Government of Uganda
HC	Health Centre
HCI	Health Care Improvement
HMIS	Health Management Information system
HRH	Human Resources for Health
HSD	Health Sub-District
HSSIP	Health Sector Strategic and Investment Plan
HUMC	Health Unit Management Committee
LG	Local Government
MDG	Millennium Development Goal
NHS	National Health System
MoH	Ministry of Health
PCC	Patient and Family Centered care
PDSA	Plan, Do, Study, Act
QA	Quality Assurance
QAD	Quality Assurance Department
QAP	Quality Assurance Programme
QI	Quality Improvement
QIF	Quality Improvement Framework
QM	Quality Management
QoC	Quality of care
RRH	Regional Referral Hospital
RMNCAH	Reproductive, Maternal, Neonatal, Child, Adolescent Health
SWOT	Strengths Weakness Opportunities Threats
TCMP	Traditional and Complementary Medicine Practitioners
UCMB	Uganda Catholic Medical Bureau
UCP	Uganda Capacity Programme
UMMB	Uganda Moslem Medical Bureau
UNMHCP	Uganda National Minimum Health Care Package
UPMB	Uganda Protestant Medical Bureau
VHT	Village Health Team
YSP	Yellow Star Programme

1 Introduction

Quality of Care (QoC) is one of the key elements of the right to health. As the country population grows there is parallel growth in the health care needs and expectations. The Second National Health Policy (NHP II) puts the client and community at the forefront and adopts a client-centered approach with consideration of both the supply and demand side of healthcare.

The mission of the Ministry of Health (MoH) is ***"To provide the highest possible level of health services to all people in Uganda through delivery of promotive, preventive, curative, palliative and rehabilitative health services at all levels".*** Good quality of care enhances clients' satisfaction and their use of services. It increases job satisfaction and motivation among service providers, leading to effective and efficient utilization of resources. The Government of Uganda, as part of its commitments to the right to health and gender equality, has an elaborate structure of the National Health System to facilitate the individuals, households and communities (as rights holders) to attain and sustain good health. In order to cultivate a culture which pursues excellence and rejects poor quality, it is essential that politicians, professionals, and the community work together as a team. This culture of quality will become the basis upon which health services provided will continuously improve, and result in a better health outcomes for the service users.

Since 2010, Uganda has made some important progress towards the Millennium Development Goals (MDGs). There has been major progress in the delivery of health services, including dramatic improvements in drug availability resulting from strengthened supply chain management by the National Medical Stores and Government's medicine grant to private not-for-profit providers. Access to affordable essential drugs through public health facilities and treatment for HIV/AIDS for those who need it has also improved significantly. The training and recruitment of additional health workers has facilitated the delivery of maternal health interventions, with skilled attendance at birth improving significantly over recent years. Improvements in child health outcomes have recently registered a marked acceleration, with the under-five mortality rate falling by 34% between 2006 and 2011. However, despite significant improvements in skilled assistance at delivery, maternal mortality remains a big challenge with many deaths occurring more than a day after the birth. Past gains in the fight against HIV/AIDS have not been sustained, with a disturbing recent increase in new infections. The percentage of people with comprehensive knowledge of HIV/AIDS transmission has increased but remains low especially among the 15-24 age group.[1]

This slow progress is primarily because health care interventions that are known to save lives are not being implemented for every patient every time they are needed. A gap exists between what is known to work and improve health care quality and safety and what is being practiced routinely.[2]

Community surveys and media reports indicate that the quality of services in public sector in Uganda leaves a lot to be desired. (1) Ugandans do not receive the services they need in terms of missed opportunities, leading to waste and inefficiency; delayed care leading to dissatisfaction and ineffective services or systems; (2) Ugandans receiving services they do not need; (3) Ugandans are harmed by the services they receive e.g. medical errors generate additional costs and waste, leading to inefficiency and dissatisfaction; (4) There is a growing number of consumer bodies which campaign for rights of individuals or groups. Consequently this has increased public awareness of their rights to quality health care.

The challenges can be overcome through concerted action of key stakeholders and the application of scientifically grounded management methods to enable the reliable implementation of high-impact interventions for every patient every time needed.

1.1 Origins of Quality Assurance

Quality Assurance (QA) started in the 1980s in the Japanese automobile industry using theories of Edwards Deming and Joseph Juran. It was realized that through inspection, more faulty products were detected but the quality of the products did not change. It became necessary therefore to look at the ways products were made so that any changes can be made along the line before the finished product came out. This revolutionalized manufacturing, and was responsible for the success of Japanese industry and World War II.

By mid-1990s, health care professionals from the United States began learning and using QA concepts from the manufacturers. In health care the focus is on reducing medical errors and needless morbidity and mortality. The QA methodology has been adopted by a number of developing countries to improve on their health care in the face of severe resource constraints. Uganda was the first country in Africa to implement QA on a national scale.

1.2 Background of Quality Assurance in Uganda

Quality Assurance in the health sector in Uganda started in 1994 as the Quality Assurance Program (QAP) which was created to support health service delivery in a decentralized system. As roles devolved to the districts, the MoH had to ensure quality of health service provision was maintained at the same level as before. The QAP transitioned to the Quality Assurance Department (QAD) under the Directorate of Planning and Development in 1998. The mandate of the QAD is to ensure that the quality of services provided is within acceptable standards for the entire sector, both public and private health services. This is operationalized within the decentralized system using the District Health Office as the focal point under decentralization.

Since then a number of QM interventions have been adopted and implemented at national and program level with support from Development Partners (DPs).

These include;

1) The Yellow Star Program (YSP) which focused on minimum service standards for a range of Primary Health Care services implemented in 39 (50%) districts between 2000 and 2010 under the District Improved Services for Health (DISH) I &II Projects and Uganda Program for Human and Holistic Development (UPHOLD) Project.
2) Support supervision visits which are vertical through programs and integrated visits (Area Teams) to monitor adherence to standards and guidelines.
3) Results Oriented Management, Performance Improvement, Staff Motivation and Retention Strategy; and Continuous Medical Education for Professional Development under human resource management and development
4) Professional registration, licensing and accreditation under the professional and regulatory bodies.
5) Quality Improvement (QI) initiatives using the collaboratives model in HIV/AIDS. This was introduced in 2005 under the HIVQual and Health Care Improvement (HCI) Projects resulting from the urgent need to scale up quality Anti-retroviral Therapy.
6) Other QM interventions implemented in Uganda are Infection Control and Prevention including Health Care Waste Management; Quality Control in Laboratories; Strengthening Laboratory Management Towards Accreditation, Maternal and Perinatal Death Audits; Clinical Audits; Reach Every District / Reach Every Child for immunisation program; 5S-CQI-Total Quality Management; Support Supervision and Performance Assessment; Service Performance Assessment and Improvement; Patient safety and health; among others.

1.3 The Quality Improvement Manual

The QAD developed the Manual of QI Methods for Health Workers in 1997 and this was used as a guide for QI implementation. The first version has been revised to reflect new developments in QI concepts and approaches as well as explaining concepts using the local context and different programme areas. It mainly focuses on only one component of QA which is QI. QI identifies where gaps exist between services actually provided and expectations for services. It then lessens these gaps not only to meet customer needs and expectations, but to exceed them and attain unprecedented levels of performance.

1.3.1 Purpose

This Manual of QI Methods is intended to provide health workers with current information on QI concepts and methods, define the QI tools and guide the implementation of QI in Uganda. It aims at ensuring careful planning, development and implementation of evidence based QI interventions and initiatives using proper QI tools, continued appraisal, mentoring and taking corrective action as required. The manual is also intended to be used as a ready reference on QI methods in Uganda; and as a tool for spreading QI methods among those unfamiliar with QI using the local context.

1.3.2 Target

The QI Manual is to be used by Health Managers, Health Workers, QI Trainers, QI Partners, Health Consumer Organizations and training institutions as a guide and for reference.

1.4 Quality Objectives

The quality objectives of the health sector are to;

1. Improve outcomes of care
2. Improve the client/patient perception of the health services
3. Improve patient safety
4. Reduce cost of health care through waste
5. Improve compliance with the health sector service delivery standards
6. Provide logical, effective and efficient documentation for the QI processes and activities

2 Quality Improvement Concepts

This section is an introduction to the QI concepts which include definitions, perspectives, dimensions and principles of QI.

2.1 Definition of Quality

Although different words are used to explain quality, in the perspective of a service user it can be defined as the extent to which a product or service satisfies a person or a group i.e. how much satisfaction the person gets from the service.

In the perspective of a manager, employer or service provider, quality can be defined as: "Meeting expectations/standards of various stakeholders/customers/users".

Quality is the degree to which a health or social service meets or exceeds established professional standards and client expectations. This is in concurrence with Edwards Deming's definition of quality as: "Doing the right thing, in the right way, at the right time" as shown in the quality grid in Figure 1.

Figure 1: The Quality Grid showing examples of carrying out right and wrong process correctly and incorrectly

	Process Done Correctly	***Process Done Incorrectly***
Right Process	**Doing Right Things Right** • Conducted lab test as requested on schedule. And conducted it correctly • Filled out correct form, and provided accurate information	**Doing Right Things Wrong** • Completed lab test as requested on schedule, but conducted it incorrectly • Filled out correct form, but provided inaccurate information
Wrong Process	**Doing Wrong Things Right** • Conducted wrong lab test, but conducted it correctly • Filled out incorrect form, but provided accurate information	**Doing Wrong Things Wrong** • Conducted wrong lab test, and conducted it incorrectly • Filled out incorrect form, and provided inaccurate information.

2.2 Quality of Health Care

Quality health 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 of best practice.[2]

Who is the professional practitioner?

- ☐ **C**ommitted, caring, communicable
- ☐ **A**ccountable, autonomous, approachable
- ☐ **R**eliable, respected, resourceful
- ☐ **E**xpert, efficient, ethical

Quality of care (QoC) involves both the technical aspects of providing service and human aspects which arise from the personal contact between the supplier and receiver of care.

What is a quality service?

- ☐ **C**omprehensive, cost-effective, contractual
- ☐ **A**ccessible, accredited, acceptable
- ☐ **R**elevant, reliable, resourced
- ☐ **E**fficient, equitable, effective

Examples of good quality services in the health sector

An immunization program will be good if the cold chain is maintained (the right way), the correct antigens are given at the correct dates (the right thing and time) and mothers are given appropriate counseling.

The quality of an antenatal service is judged by its ability to identify and assist mothers with high risk pregnancy as defined by RH policy guidelines.

A district Health Information System will be of good quality when MF105 forms are filled in correctly, data analyzed and utilized at health units where it is collected and appropriate feedback given at all levels.

When patients are received courteously at a health facility, and they get the appropriate treatment, their expectations will have been met. The services offered can then be described as of good quality.

Examples of poor quality services in the health sector

When a health worker dispenses medications without making sure that the patient has understood clearly how the medicine will be taken, then such a service by the health worker has a quality gap.

When health workers continue working without being paid their salaries in time or being promoted in service when they are due, then the service offered to them by their employing Ministry, Local Government or organization is of poor quality.

2.2.1 Cost of Quality of Health Care

Quality is one of the key drivers of improved health outcomes and greater efficiency in health service delivery. Poor quality leads to wastage of the scarce resources and reduction of outcomes from health care. If health services are not provided correctly the first time, the cost of errors can be very great, both to the health system and to the users.

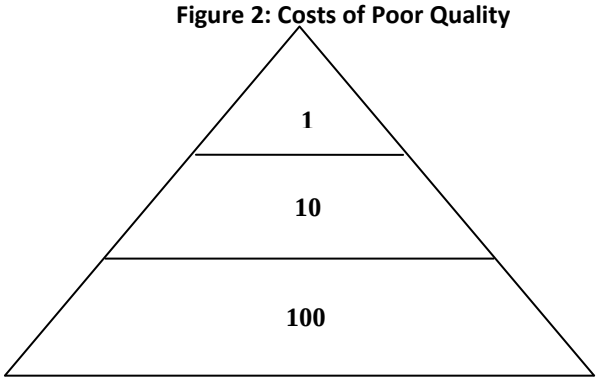
Cost of poor quality

These are all the expenditures that would not have been incurred of the services had been provided right the first time, as well as expenditure incurred in making sure that the service is provided right the first time and every time. Cost of poor quality is actually the cost of doing things wrong. It refers to the costs associated with providing poor quality product or service.

Many components of quality costs are hidden and hard to find – they are invisible. Only a small proportion of quality costs are easy to find – visible. Costs of poor quality that are obvious to us include: poor utilization, prolonged illness, wrong diagnosis, wrong treatment, repeated outpatient visits or death of patients.

Costs that are hidden include: frustrated patients; poor patient compliance; loss of community trust; wasted time for both patients and health workers; unnecessary treatment and wasted medicines; unnecessary laboratory tests and wasted reagents; low morale or poor cost recovery.

Figure 2: Costs of Poor Quality



Cost of correcting error at once

Cost of correcting error while patient is still in health facility

Cost of getting patient back from home to health facility to correct

Not all costs are quality costs. Some costs are incurred simply because they are the costs of "doing business", or of providing a basic service. Where there is a general lack of resources, QI will potentially entail substantial costs. However, many of these costs are really the cost of "doing business" rather than the costs of improving a service.

Examples:

1. Failure costs:

Failure costs are due to not doing the right thing right at the right time and right place and by the right personnel. These include:

(1) Not meeting agreed standard of care.
(2) Setting standards inappropriate to client need;
(3) Setting standard that allows a client to receive incompatible treatment from different professionals;
(4) Treating conditions that are capable of detection at an earlier stage of development when treatment costs and client costs would be lower.

2. Utilization Costs

Utilization costs are incurred when resources are not used efficiently and effectively. This can arise from;

(1) Inappropriate skills mix such that personnel are given tasks inconsistent with their ability, training and experience;
(2) Under-utilization of personnel and equipment that result in the potential QoC not being reached.
(3) Over-utilization of materials and medicines resulting in excessive costs and waste;
(4) Over-utilization of personnel due to unnecessary appointment, unnecessary tests and treatment, etc
(5) Over-utilization of equipments such that it is poorly maintained and infrequently calibrated.

3. Inspection / Appraisal Costs

Appraisal costs are incurred by administering a monitoring system that appraises and assesses the QoC. If standards are not met or maintained there is repeated inspection / appraisal.

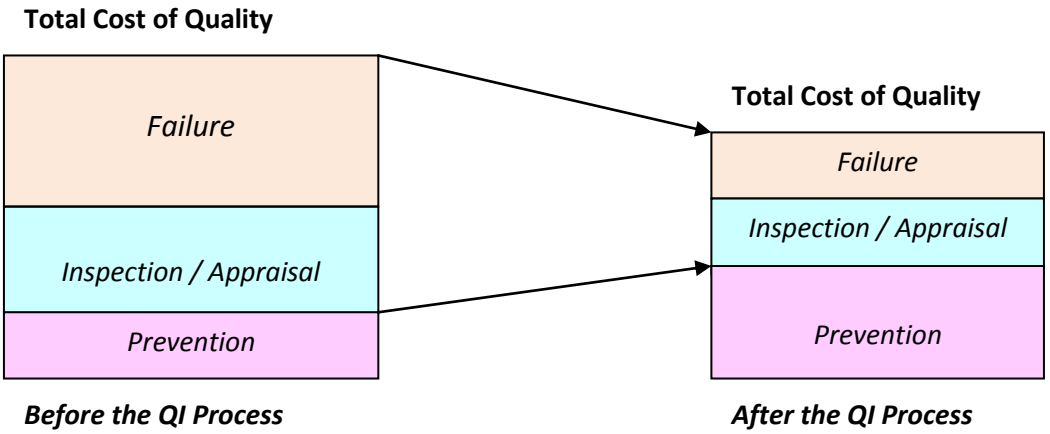
4. Prevention Costs

Prevention costs are incurred performing activities that are aimed keeping failure and appraisal costs to a minimum. These activities include:

(1) Development and maintenance of quality system;

(2) Development and improvement of standard;
(3) Educating personnel about quality

Figure 3: Costs of quality before and after the QI process

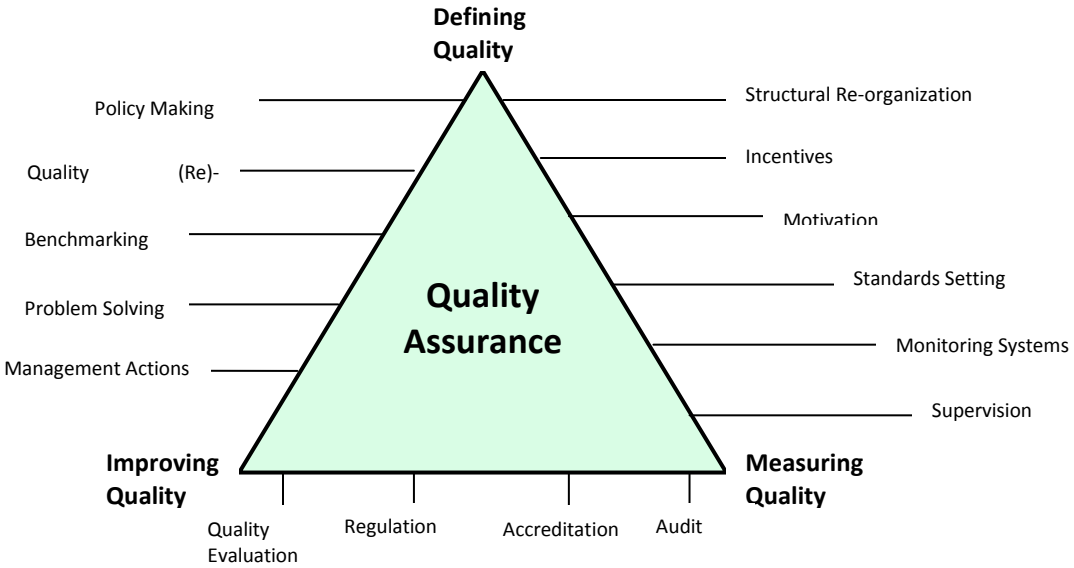


2.2.2 The Quality Assurance Triangle

Quality Assurance is based on a sound system design followed by continuing performance evaluation leading to appropriate educational-motivation activities and to readjustments in system design. It is a set of activities that are planned for, carried out systematically or in an orderly manner and continuously to improve QoC. QA includes all actions taken to make healthcare better.

The QA triangle incorporates three core QA activities;

Figure 4: The Quality Assurance Triangle



QA Project 2000

All 3 points of the QA triangle are essential, interrelated and mutually re-enforcing components of QA. In practice, QA is a cyclical, iterative process that must be applied flexibly to meet the needs of a specific

program. The QA process may begin with a comprehensive effort to define standards or it may start with a small-scale QI activity.

1. Defining Quality / Quality Design

QA activities that are part of defining quality include;

- Developing and communicating expectations or standards
- Strategic planning
- Designing various forms of regulation, including accreditation, licensure, or certification standards
- Designing systems for quality output

A standard is an explicit statement of the required or agreed level of quality in the performance of a health care activity. Written standards are used to assess performance and describe the essential steps and important processes of clinical and non-clinical work.

Performance in accordance with standards is thus the cornerstone of QI in healthcare and the end result to which a wide range of QI activities lead, including accreditation of health facilities, external quality evaluation, and performance improvement.

Development, Communication and Use of Standards

The MoH is responsible for developing and communicating most of all healthcare standards which facilities should use. However, facilities are encouraged to develop standards where they find gaps in care.

In order for standards to be effective in improving the quality of health services, they should be designed very carefully. Standards should be a response to an identified need, and representatives of all stakeholders should be consulted in the process of their development.

After standards have been developed, it is very important that they are widely circulated and understood by implementers, supervisors and those who allocate resources such as managers and political leaders. This is commonly referred to as dissemination of standards. Standards communication and implementation strategies are critical to achieving health worker performance according to the standards. The communication process should allow opportunities for feedback, both on the standards and the communication process itself.

The following methods can be used for communication of standards:

- Pre-service training institutions such as Nursing Paramedical or Medical Schools. Standards are included in the syllabus.
- Seminars can be held to explain new standards and ensure that they are widely understood.
- Support supervision is another forum which can be used for dissemination.
- Journals, newsletters, and circulars in developed countries where reading culture is strong this is the most frequently used method of dissemination of standards.
- With new developments in Information Communication and Technology, internet is a method that can be used to communicate to a wider audience locally and internationally.

After standards have been developed and communicated they can be used for measuring quality and QI through the following:-

i. *Health Services Delivery:* Health care providers who aspire to improve their performance should do everything possible to provide health services following all standards available to them.

ii. *Self Assessment:* One of the methods of monitoring performance and quality is for health workers to assess their own performance regularly. By checking their actual performance against set standards, health workers can identify their short comings and take actions on their own to improve.
iii. *Support supervision:* During supervision visits, the existence of standards will assist the identification of gaps in quality of services and at the same time assist the health workers being supervised to close the quality gaps.
iv. *Inspection:* Inspection implies an evaluation activity to find out if standards are being complied with and goes with power to impose a penalty if lack of compliance is identified. It is needed to confirm that self assessment and support supervision are effective and where standards are flagrantly disregarding, corrective action can be enforced.
v. *Accreditation / Licensing:* Where accreditation certificates / licenses are required to practice or to operate a health service or to provide training, set standards are needed to decide whether minimum requirements have been met before the accreditation certificate / license can be issued or withdrawn.

2. Measuring Quality / Quality Control

Measuring quality consists of quantifying the current level of performance or compliance with expected standards. Measures tell you whether the changes you make are actually leading to tangible improvement. This gives you concrete evidence to support your case for change, and they also increase buy-in for the initiative.

It involves;

- Defining indicators
- Developing or adapting information systems to provide data on performance related to the indicators
- Analysis and interpretation of results
- Support Supervision
- Establishing systems for Monitoring & Evaluation

Types of indicators

QI initiatives should use three types of indicators to help create targets and achieve their aims:

- **Process indicators** are the "voice of the workings of the system." In other words, are the steps in the processes that support the system performing as planned. The advantages of process indicators are that they are more sensitive to differenced in the quality of care and they are direct measures of quality. Examples include supply and demand.
- **Outcome indicators** are the "voice of the patient or customer" and capture system performance. In other words, what are the results? Examples include infection rates, wait times and falls rates.
- **Balancing indicators** look at a system from different perspectives. In other words, are changes designed to improve one part of the system causing new problems in other parts of the system? Examples include staff satisfaction and financial implications.

3. Quality Improvement

QI is the continuous, day to day process of identifying opportunities for improvement and implementing solutions to them. QI is a systems approach that applies the scientific method to the analysis of performance and systematic efforts to improve it.

It uses QI tools and principles to;

- Identify/determine what one wants to improve
- Analyze the system of care/problem
- Develop a hypothesis on which changes (solutions) might improve quality

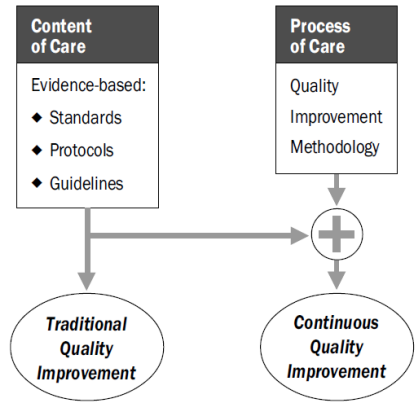
- Test / implement the changes to see if they really yield improvement.
- Based on the results of testing, decide whether to abandon, modify, or implement the solutions.

The term “quality improvement” will henceforth be used to represent such efforts using any scientific method (quantitative or qualitative) to promote effective and efficient health care services, which meet progressively higher standards that relate directly to client and community needs within the limits of available resources.

QI can also be defined as:
The combined and unceasing efforts of everyone—healthcare professionals, patients and their families, researchers, payers, planners and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development.[4]

The most powerful impact, however, occurs by addressing both content and process of care at the same time. In looking at the content of care, we review and update the clinical management of patients for improvements that address clinical care. In doing so, we use evidence-based medicine literature and the highest level of evidence available in order to update clinical practices. (See Figure 5)[5]

Figure 5: QI Integrates content of care and the process of providing care



Adapted from Batalden and Stolz (1993)

The science of improvement enables the attainment of better outcomes from the care delivery systems by introducing changes to them, specifically targeting the weak links. Improvement focuses on the weakest links both within each of the health system building blocks and the links between the blocks.[6] Improvement science can also guide streamlining and coordination actions and interactions within the health system to change procedures and work patterns to make health care outcomes better.

Table 1: Difference between QA and QI

QUALITY ASSURANCE	QUALITY IMPROVEMENT
Snapshot or retroactive: Systematic review of standards performed on a periodic scheduled basis e.g. Supportive Supervision, Facility Assessments, Accreditation, Data Quality Audits, National Core Standards, Audits, Inspections, etc	Proactive approaches to examine current process and make measurable improvements in real time. It is ongoing
Driven by government and regulatory compliance. Implemented by managers	Implemented by staff at all levels
Defines failure to meet standards and opportunities for improvement	Defines processes to improve and even exceed standards

2.2.3 Perspectives of Quality

The health staff, health manager, clients and communities are all stakeholders in service delivery. Each of these groups may expect different things from health services. One of the reasons why there is low utilization of services is because the users perceive that the service is of poor quality. Quality appreciation is fundamental to clients' willingness to pay for or take up services.

The Patient/Client

The patients/clients want services that:

- Are delivered on time by friendly and respectful staff
- Are safe, produce positive result and that they can afford
- Provide them with adequate information about their condition and treatment
- Provide them with all the medicines they need
- Give privacy and confidentiality
- Are within their reach (distance) and given in a language they can understand
- Are comfortable
- Allow continuity of care
- Provide choice

The Health Care Provider

The health provider can provide quality care if he/she has:

- Adequate knowledge and skills
- Enough resources- staff, medicines, supplies, equipment, transport, etc
- Good working environment
- Regular training
- Good pay
- Respect / recognition for good work
- Encouragement from colleagues and supervisors
- Access to information
- Feedback
- Guidance from other levels

The Health Care Manager

The health care manager sees quality care as:

- Managing efficiently the resources of the health facility
- Health staff achieving set targets
- Health staff being regularly supported and supervised
- Having adequate and competent staff to provide care
- Staff being disciplined
- Providing enough resources for work

2.2.4 Dimensions of Quality of Care

The definition of quality of health care can be looked at as having many dimensions that are interrelated and will singly or collectively promote quality. There can be considerable overlap between these dimensions. Their lack will lead to quality gaps in services provided and some gaps will be easier to remedy than others.

The dimensions of quality include:

1) Safety
2) Technical competence
3) Efficiency
4) Effectiveness
5) Access to services
6) Patient and family centered care
7) Continuity of services
8) Interpersonal relationships
9) Infrastructure and comfort
10) Choice

2.2.4.1 Safety

Patient safety is the absence of preventable harm to a patient during the process of health care. The discipline of patient safety is the coordinated efforts to prevent harm to patients, caused by the process of health care itself. It is generally agreed upon that the meaning of patient safety is…"Please do no harm". The origin of the patient safety concept if the Hippocratic Oath *"I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone".*

S – Sense the error
A – Act to prevent it
F – Follow safety guidelines
E – Enquire into accidents / deaths
T – Take appropriate remedial action
Y – Your responsibility

Currently many medical errors and system failures are repeated. Action on known risk is very slow as detection systems are in their infancy. Many adverse events are not reported as the understanding of the causes is limited. The blame culture is also alive and well, thus the defensiveness and secrecy about medical errors. In most cases fault is not willful negligence, but systemic flaws, inadequate communication and wide-spread process variation and patient ignorance.

There are multiple examples which may put the safety of the public at risk.

- Faulty blood transfusion services can transmit HIV, hepatitis B, syphilis and malaria.
- Incorrect diagnosis and treatment puts the safety of patients at risk.
- Poor infection control may allow disease spread through procedures.
- Hospital acquired infections is the most adverse event in health care in the Africa.

The following are the twelve proposed actions in response to patient safety;

1. Develop and implement a national policy for patient safety
2. Improve knowledge and learning in patient safety.
3. Raise awareness among patients and health care workers.
4. Address the context in which health services and systems are developed.
5. Minimize health care associated infection.
6. Protect health care workers.
7. Ensure health care waste management.
8. Ensure surgical safety.
9. Ensure appropriate use, quality and safety of medicines.
10. Promote partnerships between patients, family members, health professionals and policy makers.
11. Provide adequate funding.
12. Strengthen surveillance and capacity for research.[7]

2.2.4.2 Technical competence

Technical competence is the knowledge, skills, attitudes and behavior which a health worker needs to have in order to do a good job. It includes understanding and appropriately applying procedures, requirements, regulations, and policies related to specialized expertise. These are obtained through formal training, experience, on the job training, mentorship, coaching and in continuing education. Technical competence must be updated regularly.

2.2.4.3 Efficiency

Efficiency refers to using the minimum amount of effort or resources needed to achieve an intended result. This involves making the best use of the resources available or producing the maximum output for a given input. To ensure efficiency one has to eliminate the unnecessary steps and complexity in carrying out an activity. Efficiency minimizes wasted time, drugs, supplies and travel.

Example of inefficiency

Failure to coordinate movement of vehicles despite a vehicle movement schedule. Vehicle leaves to take DHT members for supervision to a health centre, the following day the EPI vehicle delivers a gas cylinder, and the third day vaccines are dispatched by a motorcycle to a health centre on the same route. In an efficient health system the vehicle taking the DHT members for supervision should have also taken the gas and vaccines.

Examples of efficiency

- *Organizing and labeling items for easy location and retrieve especially during emergencies*
- *Providing integrated Reproductive, Maternal, Neonatal, Child, Adolescent Health (RMNCAH) services where immunization, antenatal, family planning, HIV counseling and testing services are provided at the same time.*
- *Treat condition with less expensive but effective drug; Amoxicillin vs Augmentin*
- *The health center acquires more instruments so that they can run the sterilizer fewer times during the day*
- *The supply officer uses FEFO methods (first expiry, first out) to avoid wasting drugs because they are past expiry date*
- *Reducing waiting time for file retrieval through application of 5S for storage of medical records*

2.2.4.4 Effectiveness

Effectiveness is the degree to which desired results (outcomes) of care are achieved. It is the extent to which a specific intervention, procedure, regimen or service, when deployed in the field in routine circumstances, does what it is intended to do for a specified population.

Examples of effectiveness

- *An effective district implements its annual workplan according to schedule and realizes its objectives.*
- *An effective TB control program is where the percentage of patients diagnosed with TB who complete the full treatment course is high.*
- *Pregnancy rate among women using contraception measures the effectiveness of a family planning program.*
- *Reduction of postpartum hemorrhage applying ACTIVE Management of third stage of labour to all women at delivery*
- *Anti-Retroviral Treatment (ART) adherence rate measures the effectiveness of an ART program.*

- *Reduction of episodes of pneumonia in an HIV exposed children following regular cotrimoxazole prophylaxis.*

2.2.4.5 Access to services

This refers to the perceptions and experiences of people as to their ease in reaching health services or health facilities in terms of location, time, and ease of approach. Good access to services is delivering health care that is timely, geographically reasonable, equitable and provided in a setting where skills and resources are appropriate to medical need. There are many factors which influence access to health services. For example, persons may not reach health services because of physical barriers such as distances, rivers, or terrain. Other barriers include; race, gender, nationality, age, ethnicity, religion, sexual orientation, immigration status, language skills, socioeconomic status, and cultural beliefs and attitude to health and diseases. The cost of services may prevent some people from utilizing services. Access to health services may be deterred by negative attitudes of health workers who drive patients away. People will not utilize services where confidentiality is not observed.

There are many ways to improve access to health services. These include community participation in planning and management of health service delivery (e.g. Health Unit Management Committees (HUMCs), Village Health Teams (VHTs)), readily available health workers when needed, availability of medicines and health supplies, reduced waiting times for services, and of course, removal of the barriers listed in the previous paragraph.

Examples of health inequity

- *Babies born to women living in the rural have higher infant mortality rate, while the infant mortality rate of babies born to mothers living in the urban is lower due to lack of access to qualified health workers.*
- *A child who lives in a slum is far more likely to die before the age of five than a child living in another part of the city due to lack of access to safe water.*

2.2.4.6 Patient and Family Centered Care

Health care systems exist for patients, so health care interventions must be patient centered. Patients and communities must be engaged in the health care delivery process from the initial stages.[8]

The Institute of Medicines defines Patient and Family Centered Care (PCC) as; "Health care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients wants, needs, and preferences and that patients have the education and support they require to make decisions and participate in their own care".

It is care that is "respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions". By involving patients and communities, they can contribute to the delivery processes and better manage their health care challenges.

There are five core principles of PCC namely;

1. Dignity and Respect
2. Choice and Empowerment
3. Access and Support
4. Patient Involvement in health policy
5. Information Sharing

A health facility providing PCC has to address the following components of the program;[9]

1. Structures and functions necessary for culture change
2. Communicating effectively with patients and families
3. Personalization of care
4. Continuity of care
5. Access to information
6. Family involvement
7. Environment of care
8. Spirituality and diversity
9. Integrative medicine
10. Caring for the community
11. Care for the caregiver

2.2.4.7 Continuity of Services

Continuity is the ability of the health service to initiate and complete a program of care to individuals and communities. It means;

1. The provision of services that are coordinated across levels of care - primary care and referral facilities, across settings and providers;
2. The provision of care throughout the life cycle;
3. Care that continues uninterrupted until the resolution of an episode of disease or risk;
4. The degree to which a series of discrete health care events are experienced by people as coherent and interconnected over time, and are consistent with their health needs and preferences.

The service should be able to recognize those conditions exceeding its capacity and refer these to the next level where the services are available. This referral discipline is an important aspect of the continuity of service. Records are an important part of continuity since this enables the health worker to follow the previous management of the patient and determine steps. Continuity also involves keeping the patient well informed about his or her condition and care.

2.2.4.8 Interpersonal relationships

The working relations between health care workers, managers, patients and the community affect the quality of services provided. This necessitates trust, respect, confidentiality, courtesy, responsiveness, empathy, effective listening, and communication between providers and clients. Barriers to good interpersonal relations include low morale and work overload.

Examples

- *In health units where patients are treated rudely, attendance is poor. On the other hand, courteous treatment of patients increases attendance.*
- *The relations between managers and health workers also affect the quality of services delivered. Some districts which receive workers warmly and give them incentives have seen better services being provided, and happier relationships. There are also districts which are not popular with health workers because of poor relationships between the local community and health workers. These poor relationships may be due to corruption, and political or ethnic tensions.*

2.2.4.9 Choice

Choice refers to an individual's opportunity and autonomy to perform an action selected from at least two available options, unconstrained by external parties. When appropriate health consumers should have choice of services to support healthy living, choice of provider and the way in which care is provided and choice of treatment including self management support. A system where people are

supported to be involved as active partners in their own care needs to offer true choice. True choice encompasses supporting people to make good daily choices about their health. It includes supporting people with the choices about what sort of healthcare they need and what type of treatment would suit them, as well as who provides that treatment.

Choices to support healthy living:

- *Choice to have a healthy diet*
- *Choice to exercise regularly*
- *Choice to reduce health limiting behaviours e.g. smoking and alcohol*

Choice of provider and the way in which care is provided

- *Choice of provider*
- *Choice of hospital*
- *Choice of self-management course*

Within choice of provider there needs to be choice about how care can be accessed:

- *Choice of appointment time*
- *Choice of location*

Choice of treatment

- *Whether or not to have a diagnostic or screening test, e.g. pregnant women have a choice about whether to screen for abnormalities*
- *What type of treatment to have, e.g. people with ongoing knee pain make a choice about whether to have surgery or whether to have physiotherapy*
- *Whether to learn more about how to manage their own health through a self-management programme*
- *Which medication to take, where there are options*

2.2.4.10 Physical infrastructure and comfort

The physical appearance of the facility, cleanliness, comfort, privacy, and other aspects that are important to clients e.g. Clean and well ventilated buildings, availability of clean toilets with privacy, provision for privacy during consultation, reading materials, TV in waiting room, and any such factors that enhance client satisfaction, benches / chairs are provided in the waiting area, clean well maintained compound, etc.

2.3 Quality Improvement Principles

Quality Improvement is both a management method which stresses the continual improvement of performance, and the constant revision upwards of standards. QI encourages health workers to take more responsibility for the services they provide, and to assess their own work. For managers and supervisors, it means a change from the traditional role of an inspector, to one of a facilitator who helps the health workers that he or she supervises to solve their own problems.

In this section the following seven principles of QI are discussed;

1. Client focus
2. Understanding work as processes and systems
3. Testing changes and understanding the use of data to improve health services
4. Improving quality through team work

5. Improving quality through better communication
6. Strong Leadership
7. Involvement of Community /Users in QI

2.3.1 Principle 1: Client Focus

Since the organizations depend on their clients, they should understand current and future client's needs should meet client requirements and try to exceed the expectations of clients. An organization attains client focus when all people in the organization know their clients and also what client requirements must be met to ensure client satisfaction.

Why are clients important?

Clients are important because;

- Organizations depend on their clients and therefore should understand their current and future needs, meet client requirements and try to exceed the expectations of the clients
- Clients are the focus of any QI activity
- Services that do not meet clients' needs fail
- Satisfied clients comply better with advice given and refer others
- Satisfied internal clients will work better with the system

Who are the clients of health services?

Any person who has an interest in the quality of health services is a client. These include:

- Patients including their families, friends, and relatives
- The community through individuals, health committees and community leaders.
- Stakeholders, such as organizations that set policies, and those that finance, execute and supervise health care services. These include the MoH, Ministry of Local Government, Local Councils, DPs and CSOs.
- Health workers – technical and support staff who are involved in health care delivery at all levels.

Types of Clients

Health services have external and internal clients.

Internal clients are individuals or groups who are part of the health service delivery system, for example health workers, DPs and the MoH. An internal client is a particular person's colleague who may need assistance from the person in order to perform a job function.

External clients are those people or groups who are outside the health services delivery system and receive services. Among these are patients, clients, or the community in general.

Relationship between client and health worker

The relationship between the client and health worker implies that the health worker must seek to meet the needs of the client in order to maintain their confidence. If these expectations or needs are not being met, the client will be dissatisfied, and is likely to go away, and to seek care from elsewhere. This is one reason why some health units remain underutilized, while patients and the community seek services elsewhere such as private clinics, drug shops and traditional healers.

The interchangeable role of the client and health worker

A client may be defined as a person who receives a service while a health worker is the one who provides the service. In health services, it is sometimes possible for the same individual or groups of individuals to be a client at one point and a provider at another point of the health service delivery system. For

example a nurse in the hospital is a client to the pharmacist where she goes to the hospital pharmacy to collect medicines, and when she gets back to the ward with the medicines she becomes a provider to her patients. Another example of this interchangeable client provider role is the relationship between the health workers and the community. Health workers are providers of health services to the community; on the other hand, the community is a provider to the health workers with regard to incentives and a favorable working environment to health workers.

Client Needs and Wants, what is the difference?

Client's needs

When you NEED something, you HAVE to have it, it's essential. And you can't live without it.
Needs are requirements of an individual or community. There are two types of needs, felt and unfelt. Felt needs are those which an individual or the community is already aware of, and unfelt needs are those needs which they are unaware of. The following are examples of felt needs – the need to relieve pain, or the need for maternity services within easy reach.

On the other hand there are needs of which the community or individuals may not be aware of. Common examples are the need for protected water sources, the need for well planned families, and the need for continued feeding when a child has diarrhea.

Curative services usually answer the felt needs, while preventive and promotive commonly represent services that are unfelt. It is the responsibility of health workers to raise the expectations of the unfelt needs to be considered by their clients just like the felt needs.

Client Wants

When you WANT something, you wish you can have it, but you can live without it.
Wants are more about pleasure. It is necessary to distinguish between health needs and health wants. Sometimes communities or individuals want a service which is either unnecessary or harmful. Examples of this are patients requesting injections in every prescription, demands for inappropriate X-rays.

Assessing the client's needs

To distinguish between all the different types of needs, it is necessary to have information from the affected community. Information obtained should be interpreted, explained to the community and translated into services.

The feedback mechanism used should defining the following (but not limited to);

1. Who can complain?
2. What to complain about / types of complaints?
3. The time limit for making a complaint
4. Where to present complaint?
5. Whom should the complaint be addressed to?
6. How long it takes to deal with the problem?

Ways of getting feedback from clients include;

- Face to face compliments or complaints
- Surveys
- Exit Interviews
- Focus Group Discussions
- Suggestion boxes
- Media
- Political rallies
- Community dialogue "Barazas"
- Health Unit Management Committees
- Village Health Teams
- Others include; None attendance, Run away patients e.g. at lab waiting area, Strikes, Rumors

In order for quality of health services to improve it is important for both the health workers and the clients to appreciate their dual role and understand the needs of each other. These needs change with time which makes necessary continuous effort to review and meet client's needs necessary.

The MoH developed the Patients' Charter intended to raise the standards of health care by empowering the clients and patients to responsibly demand good quality health care. The patient's charter brings about awareness of patients rights and responsibilities. In addition it motivates the community to participate in the management of their health by promoting disease prevention and timely referral of patients.[10]

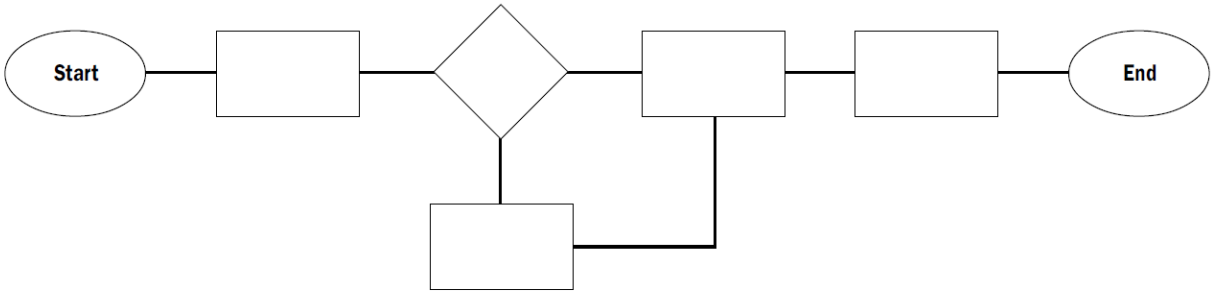
2.3.2 Principle 2: Understanding Work as Processes and Systems

An organization's effectiveness and efficiency in achieving its quality objectives are contributed by identifying, understanding and managing all interrelated processes as a system. A ***process*** is defined as "a sequence of steps through which inputs from suppliers are converted into outputs for customers." (See Figure 6). In routine healthcare delivery, many processes occur at the same time and involve many professional functions in the organization. All processes are directed at achieving one goal or output from the system.

There are different types of processes in healthcare. These include:

- **Clinical algorithms:** The processes by which clinical decisions are made
- **Information flow processes**: The processes by which information is shared across the different persons involved in the care
- **Material flow processes:** The processes by which materials (e.g., drugs, supplies, food) are passed through the system
- **Patient flow processes:** The processes by which patients move through the medical facility as they seek and receive care
- **Multiple flow processes:** Most processes are actually multiple flow processes, whereby patients,

Figure 6: Conceptual Model of a Process

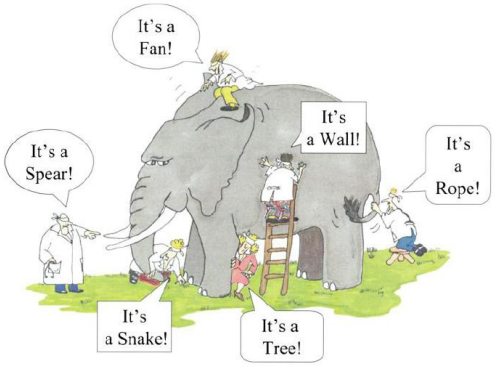


Tools such as the flowchart help people understand the steps in a process. Through the understanding of the processes of systems of care, QI teams can identify weaknesses and change processes in ways that make them produce better results.[11]

A ***system*** is defined as "the sum total of all the elements (including processes) that interact together to produce a common goal or product." A system is also defined as an interdependent group of people, items, and processes with common purpose while a process is a set of causes and conditions that repeatedly come together in a series of steps to transfer inputs into outcomes. The World Health Organization (WHO) Health System Framework describes health systems in terms of six core building blocks: finances, health workforce, information, governance, medical products and technologies, and service delivery.

Systems thinking looks at the whole, the parts, and the connections between the parts, and studying the whole in order to understand the parts. To execute any activity it is important to understand what needs to be done, the individual steps that have to be taken, and in what order.

Traditional Problem Solving: When facing quality challenges, practitioners often think that the cause is obvious. The tendency is to want to jump in and make improvements, without exploring the situation. This increases the risk of a mismatch between the intervention and the true cause of the quality problem.



We need to understand the problem before defining the solution!

Example of solving the wrong problem
Quality challenge- *Very long wait times for HIV test results*
Proposed intervention - *Increase number of technicians in lab*
Assumption - *The problem is lab-staffing*
Actual problem - *Stock out of gloves in the lab.*

"For every complex problem, there is a solution that is simple, neat, and wrong."

- H. L. Mencken

System analysis focuses on inputs, processes, outputs, outcomes and impact of health services provided.

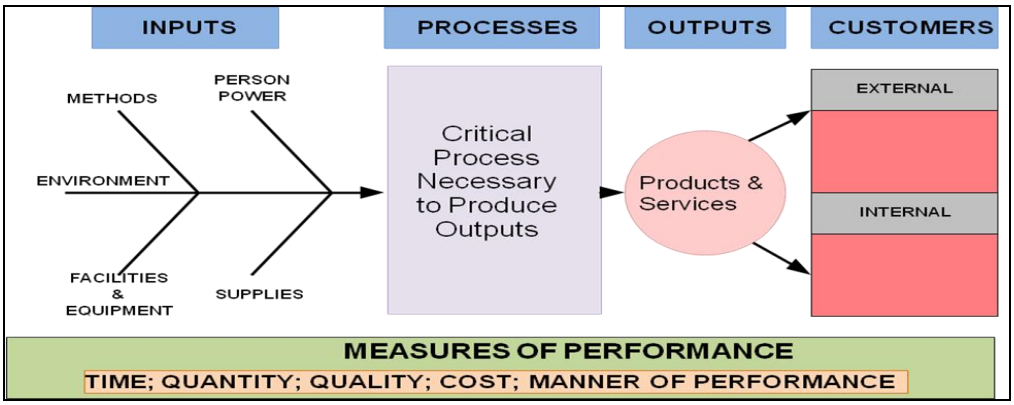
The systems model states that every activity can be broken down into related inputs, processes, outputs, outcomes and impact. (See Figure 7)

(1) **Inputs** (resources) - materials, money, human resources, equipment, policies and other resources that are required for an activity. For example, in the malaria treatment system, inputs include anti-malarial drugs and skilled health workers. Other parts of the system provide both of these inputs: the drugs by the logistics subsystem and the skilled human resources by the training subsystem.
(2) P**rocesses -** the activities and tasks that turn the inputs into products and services. For malaria treatment, this process would include the tasks of taking a history and conducting a physical examination of patients complaining of fever, making a diagnosis, providing treatment, and counseling the patient.
(3) O**utputs -** the immediate results of completion of an activity. It is a direct result of interaction between inputs and a process. The outputs of the malaria treatment system are patients receiving therapy and counseling.

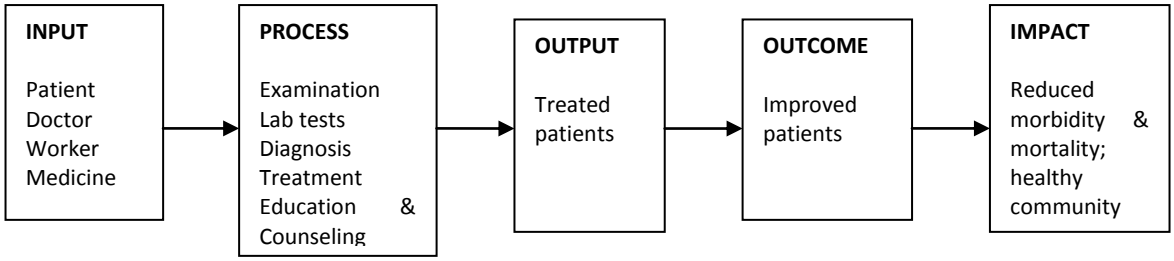
(4) O**utcomes -** the relation of the output to the objective of the activity. The outcome of the malaria treatment is improved patients. If the treatment is proper and clients satisfied, that us a good outcome, and if it is not proper, the clients are disappointed, and the outcome is poor.

(5) **Impact** - the long term effect of the outcomes on users and the community at large. These are the consequences: social, economic, environmental, etc. For malaria treatment, the impacts would be improved health status in the community and reduced infant and child mortality rates.

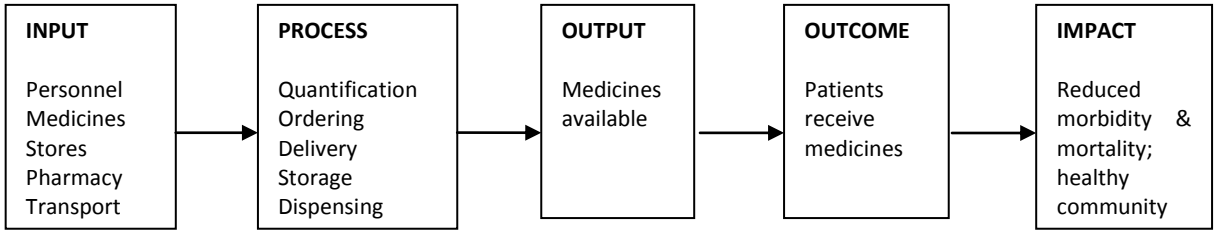
Figure 7: The systems model



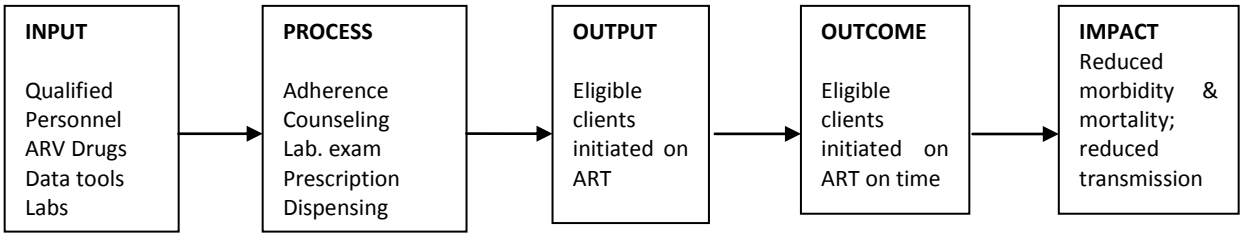
Example1: Illustration using treatment in OPD



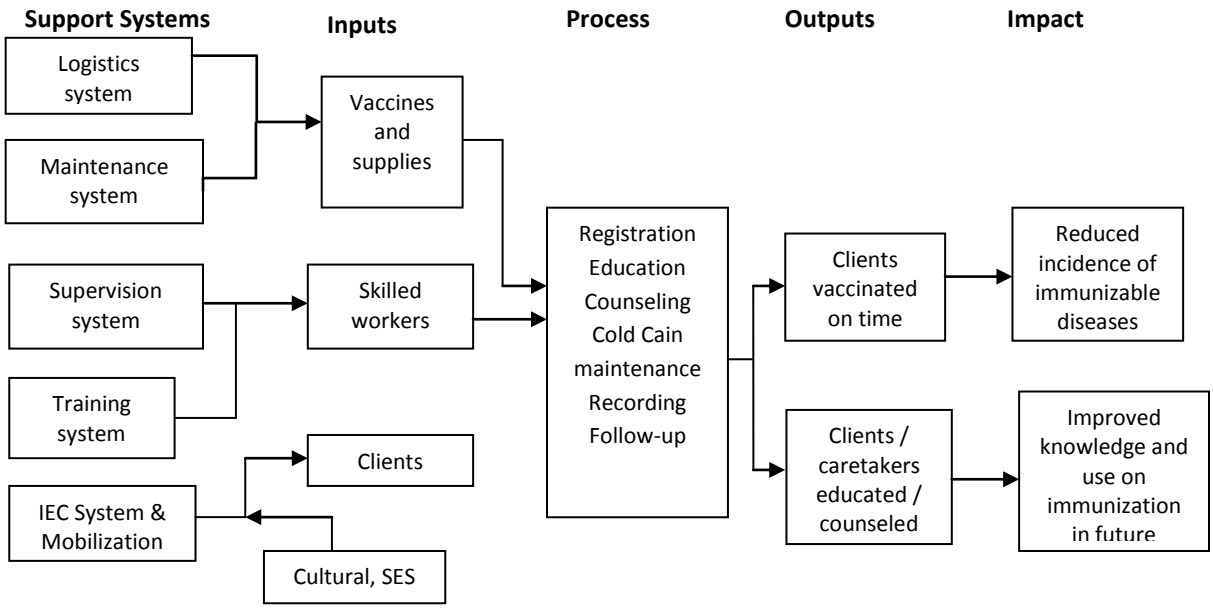
Example2: Illustration using Medicines Supply



Example 3: Illustration using ART services



Example 4: Illustration using EPI Services



Blame processes not people

When services are poor is it the person or the process at fault? We have a tendency to blame the persons providing the services. But QI has shown that at least 85% of problems in providing health services are related to weak steps in the process, under management control. About 15% of all errors are due to individual event or behaviour, under individual control.

Advantages of using a systems view

- Identify various process elements that are often overlooked
- Show explicit links among inputs, processes and outcomes
- Provides framework for structured analysis of quality issues in the design of interventions
- Explore causes of poor performance

Because work is accomplished through processes and systems in which different people fulfill different functions, it is essential to involve in the improvement representatives of the people who fulfill these functions. This brings their insights to the understanding of changes that need to be made and to the effective implementation of the appropriate processes, as well as to the development of ownership of the improved processes and systems.

2.3.3 Principle 3: Testing Changes and Emphasizing the Use of Data

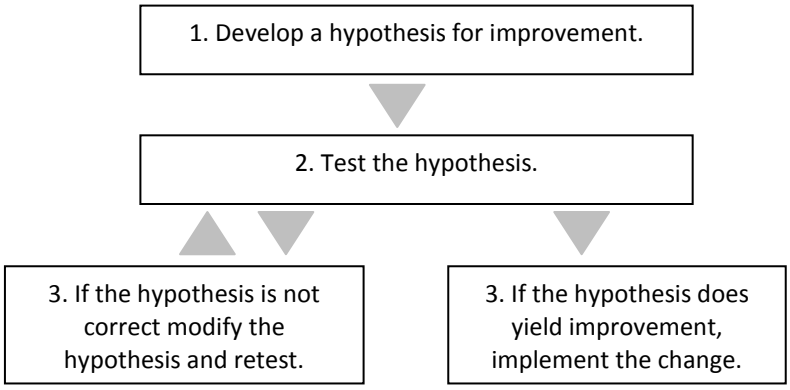
The implementation of QI interventions should be evidence-based, forward looking and take into account emerging trends. The scientific method helps to distinguish between opinion and fact; based on the results of the experiment(s), decisions are made about whether or not to implement a change. Therefore in QI the scientific method is used not only to determine if a change was effective, but then also to act accordingly.[11] The scientific method consists of three main areas;

1. Hypothesis testing
2. Measurement and data
3. Interpreting data variation

1. Hypothesis testing: Applications for QI

Hypotheses are educated guesses that are not yet confirmed to be true. They present ideas for change, but do not indicate if the change(s) actually cause an improvement. Testing an hypothesis determines whether a change yielded improvement and/or required further modification before implementation.

Figure 8: Hypothesis Testing



2. Measurement and Data

Systems must be in place to ensure quality data collection, analysis, documentation and use. For data to be useful, it should be simple to collect, reliable, and should be analyzed and used locally to improve services.

Use of data in QI

- Identify and assess problems
- Verify possible causes of problems
- Allows us to make informed decisions
- Shows if a change yielded improvement and by how much
- Monitor processes over time to see if a change and the improvement are maintained

Data collection methods

Both quantitative and qualitative methods of data collection are helpful in QI efforts.

1) **Quantitative methods** involve the use of numbers and frequencies that result in measurable data. This type of information is easy to analyze statistically and is familiar to health workers. Examples include: calculating the frequencies of timely access to care; calculating the percentages of patients that receive specific service.

2) **Qualitative methods** collect data with descriptive characteristics, rather than numeric values that draw statistical inferences. Qualitative data is observable but not measurable, and it provides important information about patterns, relationships between systems, and is often used to provide context for needed improvements.

Types of Measures / Indicators

One way to measure whether a change resulted in improvement is to monitor indicators. An indicator is a measureable variable that can be used to determine the level of performance of a system/process, the degree of adherence to a standards, or the achievement of a quality goal.[12] Indicators are used to identify program weaknesses, test changes and measure program successes.

Characteristics of a good indicator;

- objective in detecting areas being measured
- sensitive to change
- easy to calculate
- reflect the data needs of the program
- relevant to the organizational objectives

QI Teams should use three types of measures to help create targets and achieve their aims:

- **Outcome Indicators** are the "voice of the patient or client" and capture system performance. In other words, what are the results? Examples include infection rates, cure rates, vaccine coverage rates, waiting times and falls rates.
- **Process Indicators** are the "voice of the workings of the system." In other words, are the steps in the processes that support the system performing as planned? Examples include use of a partogram in labour, use of aspirin in acute myocardial infarction, TB screening among HIV+ clients and availability of medicines.
- **Balancing Indicators** look at a system from different perspectives. In other words, are changes designed to improve one part of the system causing new problems in other parts of the system? Examples include staff satisfaction, financial implications and increase in demand for services (utilization rates).

Sources of QI data

In an ideal situation, the QI team will be able to use existing data sources such as the Health Management Information System (HMIS) to obtain the data they need for their indicators. This includes information from the daily outpatient register, inventories, inpatient registers, immunization records and monthly returns. If existing data are insufficient or inaccurate, QI Teams need to collect additional data. Common data collection methods include but are not limited to;

- direct observation
- customer feedback
- interview with health workers

Presentation of Data

Findings from monitoring should be;

- Presented in a very clear manner so that staff can easily understand.
- Presented as absolute figures; proportions or percentages; pictorial form e.g. run char, bar chart, pie chart, histograms, score card / dash board or a quality story board.
- Discussed first with management, then followed up with a written report so that they can take action where necessary.
- Displayed on staff notice boards.

- Presented in staff meetings to inform them about your findings.
- Shared with clients and the community.

QI is an approach to improvement of service systems and processes that rests upon the routine use of health and programme data to meet patient and programme needs.

3. Interpreting Data Variation

Variation is defined as the difference in the output of a process resulting from the influence(s) of five main sources.[12]

- People: physicians, nurses, technicians and patients
- Machines: equipment, databases
- Materials: supplies, inputs
- Methods: procedures, standards, techniques
- Measurement: bias and inaccuracy in the data

Variation is a normal part of life and affects every day operations e.g. in nature some days are uncommonly hot or cold. This difference is called variation. There are two types of variation. Common cause variation and special cause variation.

Common cause variation is found regularly within a process or system and is due to the normal fluctuation in the process or system. In a stable system common cause variation is predictable.

Special cause variation, however, is caused by a circumstance out of the ordinary and cannot be predicted. If a special cause variation has a positive impact on the system, then it may suggest solutions for improvement and should be tested to determine whether implementation of the solution would result in permanent improvement. A negative impact on the system however, suggests that special cause variation should be studied so that it can be avoided. The run chart is a helpful tool in monitoring the performance of processes to observe trends, shifts or cycles. (See section 5.2 Data collection and analysis tools).

2.3.4 Principle 4: Improving quality through team work

A team is a group of people who work together for a common goal for which they share responsibility. Delivery of health services depends on good teamwork. For example, good immunization coverage depends on a team of the cold chain technicians, drivers, nurses, and the community. Treating a patient requires a team: someone to register the patient, someone to examine the patient and prescribe treatment and someone to dispense the treatment. If teamwork is poor, the quality of health services provided will be poor.

Importance of team work

Here are the benefits of teamwork and the importance of working together as a team:

1. One of the major benefits of teamwork is getting things done in less time. When leaders involve their teams to brainstorm together to find a solution, they will get many different and creative ideas. This effort will enable them to implement the best action plan and assign the tasks to the people involved. When everyone in the team knows that he has a part in the process he will ensure to get the task completed.

2. Teamwork helps individuals raise their self-esteem. Everyone wants to feel important and needed. When each person is aware of his role and that he is part of a team, he gets a sense of belonging. He will use his talents and creativity to do his best.
3. Teamwork promotes unity, rapport and bonding. When people work together, they are able to give and take, help and support one another because the main focus is to accomplish their mission.
4. Teamwork helps individuals develop personal responsibility. Even though the main focus is the team's goal, each person knows that he is accountable and is responsible to do his part or role.
5. A person who participates in a team's effort will develop the right attitude. He will learn a lot of things than can help him advance in his career and personal life. He will become aware of the importance of communication, decision making, planning and preparation and taking constructive action.
6. The task assigned becomes fun instead of a chore or feeling all alone. When people do something in a state of joy, they are very resourceful. They find it easy to learn new skills. They may even outdo their best and discover that they have abilities that they weren't aware of.

Team building and maintenance

Team building is a process which takes time and passes through stages. The time taken in each stage depends on a number of factors such as; leadership capacity, composition of the team, task before them, skills and attitudes of the team members.

Stages of team development

It is recognized that development of all teams passes through the stages of forming, storming, norming, performing and adjourning. It may take some teams longer than others to reach the performing stage. Team members must not get discouraged by the lack of productivity in the early stages of team development.

Every team goes through cycles of good times and bad ones. The duration of these highs and lows will vary each time depending on how quickly they work through problems. Team members should know that such cycles are normal, and do not indicate that the team will ultimately fail or succeed. Teams need to look at how to get out of lows quickly.

Characteristics of an effective team

Effective team have the following characteristics;

- Members have a clear goal
- The focus is on achieving results
- There is a plan for achieving the goal
- Members have clear roles
- Members are committed to the goal
- Members are competent
- They achieve decisions through consensus
- There is diversity among team members
- Members have effective interpersonal skills
- They know each other well and have good relationships
- Each member feels empowered to act, speak up, offer ideas
- An informal climate and easiness exists among members
- The team is open to new ideas

Table 2: Stages of Team Development

Stage 1: Forming

Behaviours	Tasks
• The purpose and goals for the team are unclear • Members feel varying degrees of commitment • Members are cautious, don't initiate and avoid responsibility • Communication is low and a few members often dominate • Members are dependent on directive leadership	• Build a common purpose. Clearly establish the expectations of the customers or sponsors • Understand personal expectations and interests • Clarify accountability, recognition and rewards • Assess resources; see who has what to contribute • Leader provides direction and drives the team process

Stage 2: Storming

Behaviours	Tasks
• Differences and confusion arise over goals and rules • Struggles erupt over approaches, direction and control • Team members react toward leadership with counter-productive behaviours • Team is uncertain about how to deal with issues openly • Team wrestles with issues of communication	• Involve everyone in the discussion. • Inquire into differences; include all ideas and opinions. • Seek further clarity about purpose and develop a common approach to meeting project objectives • Assess and test resource needs; male necessary adjustments • Define operational agreements (norms). • Leader raises difficult issues and coaches team through struggles.

Stage 3: Norming

Behaviours	Tasks
• Team gains confidence, feels a sense of momentum • "What", "How", "Who", "When" become clarified • Team develops agreements on approaches, goals, communication and leadership roles • Team builds relationships with externals (customers, key stakeholders) • Members begin to relate interdependently	• Develop processes for information sharing, feedback and resource distribution. • Have open forums on tasks and relationships, both internal and external • Build appropriate feedback loops with external relationships. • Work towards consensus on overarching issues. Negotiate where appropriate. • Leader uses a facilitative style to create the opportunity for others to lead.

Stage 4: Performing

Behaviours	Tasks
• Members take full responsibility for tasks and relationships • Team achieves effective and satisfying results • Team takes initiative to continually assess external forces • Team facilitates itself easily through the various stages • Members work proactively for the benefit of the team	• Continually seek to improve tasks and relationships. • Assess and evaluate results against purpose and external forces. • Celebrate successes - reward and recognize both team and individual wins. • Continuously test for better methods and approaches. • Leader focuses on purpose, interdependent relationships, and conditions that shift the stages.[13]

Stage 5: Adjourning/ Disintegration

- Completion and disengagement.
- Separation and ending from tasks and members.
- Pride and accomplishment may be felt.[14]

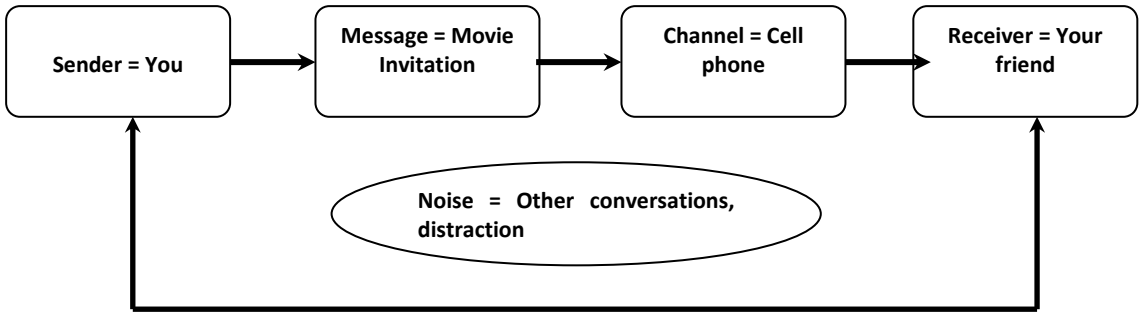
2.3.5 Principle 5: Improving Quality through better communication

Communication is a process by which messages are passed from a sender to a receiver with feedback to the sender. Both the sender and the receiver can be single persons, groups of people or communities. Effective communication is essential for ensuring the quality of health care delivery and the satisfaction of users. As mentioned in principle two, weak steps in the process of communication in each of these levels can lead to poor quality.

The Communication Process

In communication process there is a sender, a message, the channel, the receiver and a feedback link. Figure 8 outlines the entire communication process. Each of the stages in this flow chart contains many steps. When there is poor communication, it is usually because there are weaknesses in the process through which the communication is passed.

Figure 9: Communication Process Example



The **sender** who may be an individual, group or organization, should be credible (believable), knowledgeable, and a good listener to receive feedback.

The **message** should be in a language easily understood by both the receiver and sender. It must be relevant, interesting, simple, concise and clear.

The **channel** should be appropriate, accessible and familiar to both the sender and receiver.

The **receiver** should be interested in the message and capable of understanding it.

Feedback is important in effective communication. For communication to be complete, the sender should solicit feedback, and the receiver should provide it.

Communication Levels in the health system

Communication in the health system takes place at several levels:
Health worker – Patient
Health system – Health Worker
Health System – Community

Health Worker – Patient

Good communication between health workers and the patients increases the quality of care. For example, after a diagnosis is made the health worker should explain to the patient the nature of the

illness, the treatment which is required, and any necessary follow up. The health worker should ensure that the patient has understood.

Within the health system

Examples among health workers

- A clinician should provide enough information to the radiographers to ensure that the correct examination is done.
- Prescribers should write legibly and completely to allow medicines to be dispensed promptly and correctly.

Examples within the health system

- Administrative circulars should be widely circulated and read.
- Information concerning patients referred to hospital should be complete. AA feedback should be sent to the referring unit promptly.

Health system to Community

In Uganda many disease outbreaks like HIV/AIDS, Ebola, other haemorrhagic fevers have been tackled mainly through massive public awareness campaigns. Communication to community should result in behavior change. To be effective feedback must be sought.

Barriers to effective communication

Communication barriers may affect the quality of health services at all levels. Barriers to effective communication include;

- **Age difference** – In the delivery of certain messages, the status of the sender may be important, for example messages concerning breast feeding may not be believed if the sender is a young lady that has no children.
- **Gender** – Some messages are best sent by senders of the same age.
- **Socio-economic gap** – It is best that the sender be from the same group as the receiver.
- **Language / vocabulary difference** - The choice of words or language which a sender uses will influence the quality of communication. It is important that the sender uses words in a way that they are not misinterpreted and uses a language that is well understood by the receiver.
- **Cultural differences** - Effective communication requires interpreting the basic values, motives, aspirations, and assumptions that operate across geographical lines. Given some dramatic differences across cultures, the opportunities for miscommunication in cross-cultural situations are enormous.
- **Inappropriate channel** - For example TV may be used for messages targeting rural populations, at a great expense, without being effective.
- Other barriers include differences in attitudes, timing of message, power struggle, body language, tone, and other non-verbal forms of communication.

The sender must know the background, interests and language of the receiver. The message must be timely, meaningful and applicable to the situation. In presenting messages an appropriate channel must be used.

2.3.6 Strong Leadership for QI

Everyone in the organisation needs to be committed to providing quality services and continually improving the quality of services. Strong leadership for QI involves efforts by senior leadership and management leading by example to integrate QI into the strategic planning process and throughout the entire organization and to promote quality values and QI techniques in work practices.

Strong leadership, direction and support of QI activities within the institutional are key to performance improvement. This will require an organisational culture where mistakes are seen as opportunities for improvement rather than punishment. This culture will foster a common understanding that performance data will be used to improve care for patients, and will not 'blame' or punish'.

Leaders can support QI activities in the following ways:

- **Create a vision for quality** by setting shared goals for performance.
- **Build staff capacity for QI** by making sure that staffs understand what QI is about and how to do it. Training opportunities about QI should be available for all staff and it should be included as part of their routine job expectations.
- **Build motivation for QI** by communicating to staff that improvements are possible and welcomed, and encouraging them to set time aside to talk about quality and make it part of their jobs.
- **Establish a QI team** to manage this process at the health facility.
- **Involve all staffs** including Clinicians, Administrators, support staff and outreach workers.
- **Dedicate time to measure clinic performance** and stress the importance of complete documentation to help determine whether or not patients are getting the care they deserve.
- **Communicate the results of activities related to QI initiatives** to staff and clients. This can be through story boards and/or posters displayed in common areas, clients participating in QI Team reporting back to user groups; sharing of the facility's annual QI Plan evaluation or newsletters.
- **Provide time to openly discuss** both successes and failures.
- **Make sure that the 'voice' of the patient is heard and acted on** through surveys, exit interviews, suggestion boxes or other means.
- **Involve staff and patients** in understanding data and making decisions based on it.
- **Use available existing resources** to strengthen QI activities.
- **Aligning donor programs** and harnessing them to improve health system performance.
- **Include a budget for QI** that provides for training in this discipline.
- **Show and tell the staff they are appreciated.** Go out of your way to say thank you and show your appreciation when staffs.
- **Encourage staff to find and utilize their talents.** This includes talking to employees, especially those who are not performing to expectations.
- **Create a workplace that provides meaning and purpose for the employees.** They need a secure, worker-friendly, quality-promoting environment including:
    - organized patient flow procedures
    - improved signage within the facility
    - PPE that give adequate protection
    - efficient waste disposal measures
    - clean toilets and facilities for staff and patients
    - equitable staff shifts and rotations that respect people's personal and gender circumstances

Key Characteristics of Strong Leadership for QI

- *Clear goal setting with measurable and objective quality benchmarks for each QI project*
- *Communicative - Communicate results from improvement projects throughout the clinic and the community. Display data where patients can see them.*
- *Deeply committed to change throughout the entire organization*
- *Personally involved from designing training and education protocols to analyzing results of new initiatives*
- *Acting as both a teacher and a role model*

2.3.7 Involving the Community in QI

The aim of involving the community in health is to set up a process whereby the community defines its own health needs, works out how these needs can best be met and collectively decides on a course of action to achieve the desired outcomes. Their involvement can range from individuals giving feedback, such as patient stories, to collaborative work including patient groups and communities helping to develop and commission services.

2.3.7.1 Importance and results of Community involvement in QI

- Develop a culture of participation in designing, planning and provision of care
- Empower patients and consumers by creating awareness about their rights and responsibilities
- Mobilize resources and energy
- Determine local needs and aspirations
- Ensure the ownership and sustainability of QI programmes
- Better informed decisions
- Reduce inequalities
- Strengthen local accountability (financial accountability – value for money, accountability for performance – quality of services, political and democratic accountability – responsiveness to service users)

2.3.7.2 Principles of effective involvement

- Identifying and understanding your stakeholders
- Finding out how people prefer to be involved
- Making sure your methods suit the purpose of the involvement exercise
- Be clear about why you are involving patients and the public
- Sharing information and knowledge, so that people can easily understand the issues
- Providing feedback to people about what you have learned from them and what action(s) you intend to take as a result of their involvement
- Making a concerted effort to reach out to people whose voices are seldom heard
- Ensuring that patients and the public have the support they need to get involved

3 The QI Methodology and Steps

QI methods are applied to improve the safety and quality of patient care and provide health care workers with the tools to: (i) identify a problem; (ii) measure the problem; (iii) develop a range of interventions designed to fix the problem; and (iv) test whether the interventions worked.

There are many QI methodologies like; six sigma, lean organization, 5S, CQI, Total Quality Management (TQM), root cause analysis, PDSA, Performance Improvement, etc. In Uganda, the MoH recommends initiation of QI interventions in health facilities to start with the 5S which is the initial component of the 5S - CQI – TQM methodology as a fundamental background to CQI and then introduce appropriate QI interventions which;

- apply the principle of an iterative cycle of improvements;
- apply systematic assessment of service delivery processes;
- use data measurement and statistics in daily work;
- recognize the organizational dimension of improvement; and
- recognize the need for commitment from leadership as well as active engagement of frontline clinical staff;
- involve patients / clients.[15]

3.1 5S (Sort, Set, Shine, Sustain and Standardize)

5S is a management tool, which originated in Japanese manufacturing sector. It is used as a basic, fundamental, systematic approach for productivity, quality and safety improvement in all types of organizations. It is a workplace organization method that uses a list of five Japanese words: Seiri, Seiton, Seiso, Seiketsu and Shitsuke. Translated into English: Sort, Set, Shine, Sustain and Standardize.

The 5S's list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order. The decision-making process usually comes from a dialogue about standardization, which builds understanding among employees of how they should do the work.

3.1.1 Steps in 5S

1) **Sort (Seiri)** - Eliminate all unnecessary tools, parts. Go through all tools, materials, and so forth in the plant and work area. Keep only essential items and eliminate what is not required, prioritizing things per requirements and keeping them in easily-accessible places. Everything else is stored or discarded.

2) **Set in Order to Flow or Stream (Seiton)** - Arrange the work, workers, equipment, parts, and instructions in such a way that the work flows free of waste through the value added tasks with a division of labor necessary to meet demand. This is by far the most misunderstood and incorrectly applied S and has been responsible for many lean transformations failing to produce the benefits expected. When applied correctly with flow established this step eliminates the majority of the non-value-added time and allows the rest of the zero defect philosophy to be enabled. Put simply, until you have an orderly flow, you cannot have an orderly flow of problems to solve and the notion of zero defects is impossible.

3) **Shine (Seiso) -** Clean the workspace and all equipment, and keep it clean, tidy and organized. At the end of each shift, clean the work area and be sure everything is restored to its place. This step ensures that the workstation is ready for the next user and that order is sustained.

4) **Standardize (Seiketsu)** - Ensure uniform procedures and setups throughout the operation to promote interchangeability.

5) **Sustain (Shitsuke) -** Make it a way of life. This means commitment. Ensure disciplined adherence to rules and procedures of 5S to prevent backsliding.

The MoH developed 5S Implementation Guidelines and a 5S Handbook to guide 5S implementation in Uganda.

3.2 Continuous Quality Improvement

An approach to quality management that builds upon traditional quality assurance methods by emphasizing the organization and systems: focuses on "process" rather than the individual; recognizes both internal and external "customers"; promotes the need for objective data to analyze and improve processes teamwork and effective communication. [16]

CQI is a long term approach to work that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality.

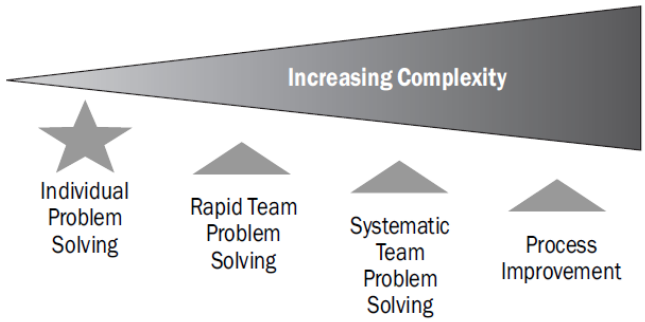
CQI uses a set of statistical tools to understand subsystems and uncover problems, but its emphasis is on maintaining quality in the future, not just controlling a process. Once a process that needs improvement is identified, a team of knowledgeable individuals is gathered to research and document each step of that process. Once specific expectations and the means to measure them have been established, implementation aims at preventing future failures and involves the setting of goals, education, and the measurement of results. If necessary, the plan may be revised on the basis of the results, so that the improvement is ongoing.[17]

3.2.1 QI Approaches

The QI spectrum has four approaches namely;

- Individual problem solving
- Rapid team problem solving
- Systematic team problem solving
- Process improvement

Figure 10: The Spectrum of QI Approaches



Individual Problem Solving Approach

Focuses on improvement needs that are apparent and do not require teamwork to analyze, develop, test or implement a solution. It is successful in organizations where each individual understands his or her contribution to the overarching goal of quality care and is empowered to make necessary decisions within his or her jurisdiction. This approach is generally faster than the others.

Rapid team problem solving approach
Rapid team problem solving can too be accomplished quickly while using a team. It tailors the problem-solving process to the situation at hand and minimizes activities just to those necessary to make improvements. Rapid team problem solving also builds on available data as much as possible and attempts to minimize new data collection. Small interventions are introduced sequentially to improve a situation in a very controlled way that prevents or quickly corrects any adverse results.

Systematic team problem solving approach
This responds to recurring, chronic or difficult problems that may require identification of the real root cause of the problem and the development of solutions accordingly. It requires significant time and data to develop, test and implement solutions and to observe any improvements.

Systematic team problem solving is appropriate when the problem:

- Is chronic, recurs, or is complex
- Does not have an obvious solution
- Is not an emergency or safety issue
- Need not be solved in a short period
- Allows doe a team to work together on the analysis over time

Process Improvement
Process improvement approach usually involves permanent teams that take responsibility for key processes and continuously work for their improvement. The process improvement team members (In Uganda QI Team members), can apply any of the other QI approaches to adapt to the wide variety of improvement needs. Process improvement teams usually work across functions or departments to improve complex processes that affect the greatest number of internal and external clients. The participation of external clients in the team contributes to an understanding of how the process can be improved to meet their needs.

Process improvement should be a proactive approach that puts activities in place to prevent problems and not just react to them. This approach should be used continually to improve and monitor a process, plan for the future, and fix problems as they arise.

Process improvement is used when;

- Teams can be permanent
- There is a monitoring system or capacity to establish one
- A proactive, preventive approach is needed
- The key process does not require quick attention (not an emergency or safety issue)

Although the four QI approaches differ in complexity, each follows the same basic four-step sequence highlighted in section 3.3

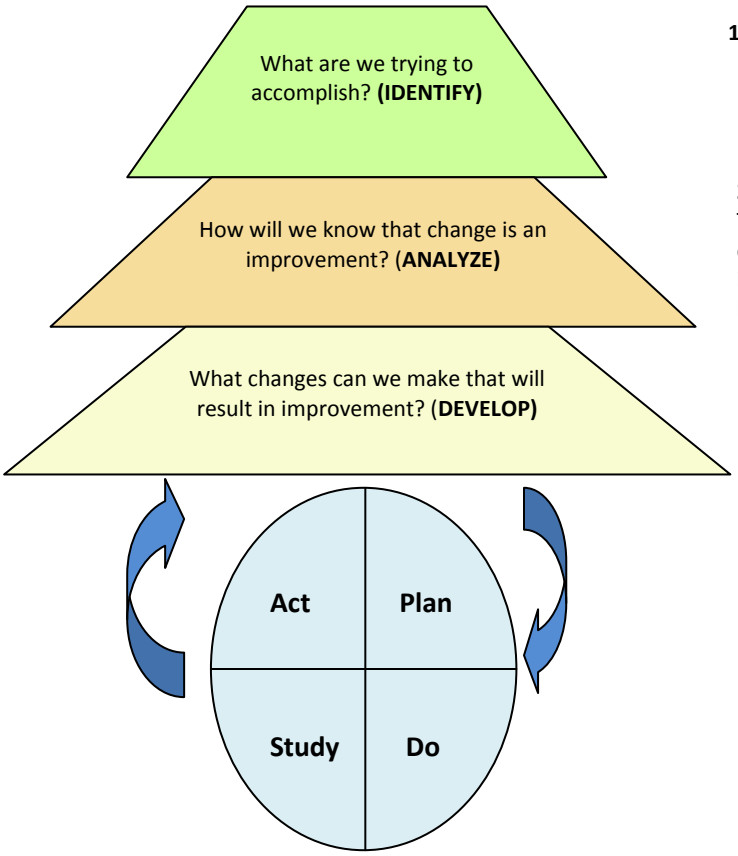
3.3 The Model for Improvement

QI methodology identifies unnecessary, redundant, or incorrect parts of processes, and then changes processes in ways believed to yield improvements. However, because not every change is necessarily an improvement, a change must be tested and studied to determine whether it has actually resulted in improvement.

The Model for Improvement is a simple but powerful framework for structuring any QI project. QI Teams that use this model have the highest chance of success. The model has two basic components: the first

addresses three fundamental questions, and the second is a rapid cycle improvement process comprising a series of PDSA cycles to develop, test and implement changes for improvement.(See Figure 11).

Figure 11: The Model for Improvement



1. **Setting Aims** Improvement requires setting goals. The goal should be time-specific and measurable; it should also define the specific population of patients that will be affected.

2. **Establishing Measures** Teams use quantitative measures (indicators) to determine if a specific change actually leads to an improvement. QI tools like the fish bone analysis, histograms, pareto charts, etc, are used

3. **Selecting Changes** All improvement requires making changes, but not all changes result in improvement. Organizations therefore must identify the changes that are most likely to result in improvement.

4. **Testing Changes** The PDSA cycle is shorthand for testing a change in the real work setting – by planning it, trying it, observing the results, and acting on what is learned.

Step One: Identify

The goal of the first step, *identify,* is to determine what to improve. This may involve a problem that needs a solution, an opportunity for improvement that requires definition or a process or system that needs to be improved.

QI goals should be clearly defined for example;

- Reducing waiting time
- Reducing infection rates
- Reducing complication rates
- Reducing dropout rates

This first step involves recognizing an opportunity for improvement and then setting a goal to improve it. QI starts by asking these questions:

- What is the problem?
- How do you know that it is a problem?
- How frequently does it occur, or how long has it existed?
- What are the effects of this problem?
- How will we know when it is resolved?

Identification of the processes that need improvement can be done using a number of methods such as surveys, FGD or simply asking patients about their experiences. Once the problem areas are identified, a brainstorming session should occur with a variety of people who are involved with the processes. The target problems are decided upon and a list of possible causes is identified.

Step Two: Analyze

Once we have identified areas for QI, the second step is to *analyze* what we need to know or understand about this opportunity for improvement before considering changes. The objectives of the analysis stage can be any combination of the following:

- Clarifying why the process or system produces the effect that we aim to change
- Measuring the performance of the process or system that produces the effect
- Formulating research questions, such as the following:
    - Who is involved or affected?
    - Where does the problem occur?
    - When does the problem occur?
    - What happens when the problem occurs?
    - Why does the problem occur?
- Learning about internal and external clients through the tools available

To reach these objectives, this step requires the use of existing data or data collection. The extent to which data are used depends on the QI approach chosen. A few techniques to analyze problems include:

- Clarifying processes and systems through flowcharts or cause-and-effect analyses
- Reviewing existing data
- Collecting additional data

Step Three: Develop

The third step, *develop*, uses the information accumulated from the previous steps to explore what changes would yield improvement. Hypotheses, tentative assumptions used to test consequences, are formulated about which changes, interventions, or solutions would reduce the problem and thus improve the quality of care.

Group activities such as brainstorming, affinity analyses, and creative thinking are applied to generate lists of possible changes. When a team has generated a list of possible interventions, the ideas must then be ranked according to criteria such as urgency of feasibility, so that the team can choose one intervention to develop and test. Tools such as the prioritization matrix helps groups to rank interventions and decide which one to develop. In prioritizing which areas to address, it is helpful to consider which is:

1. High risk: Could have the most negative effect if the quality is poor
2. High volume: Takes place often and affects a large number of people
3. Problem prone: An activity susceptible to errors

Interventions are developed together and tested together or separately creating a sequence of small changes over time.

Step Four: Test and Implement

This step, *test/implement,* builds on the first three. A hypothesis is tested to see if the proposed intervention or solution yields the expected improvement. Because interventions that prove to be effective may not yield immediate results, allowing time for change to occur is important in the testing process. The results of this test determine the next step (Table 3).

Table 3: Test results determine next step

Test Result	Next Step
Proposed change did not produce an improvement	Start the improvement process again or look for flaws in the proposed change
Proposed change yields improvement that is not completely satisfactory	Modify the proposed change and then re-test the modification
Proposed change yields satisfactory improvement	Begin the implementation of change or intervention

Testing a Hypothesis

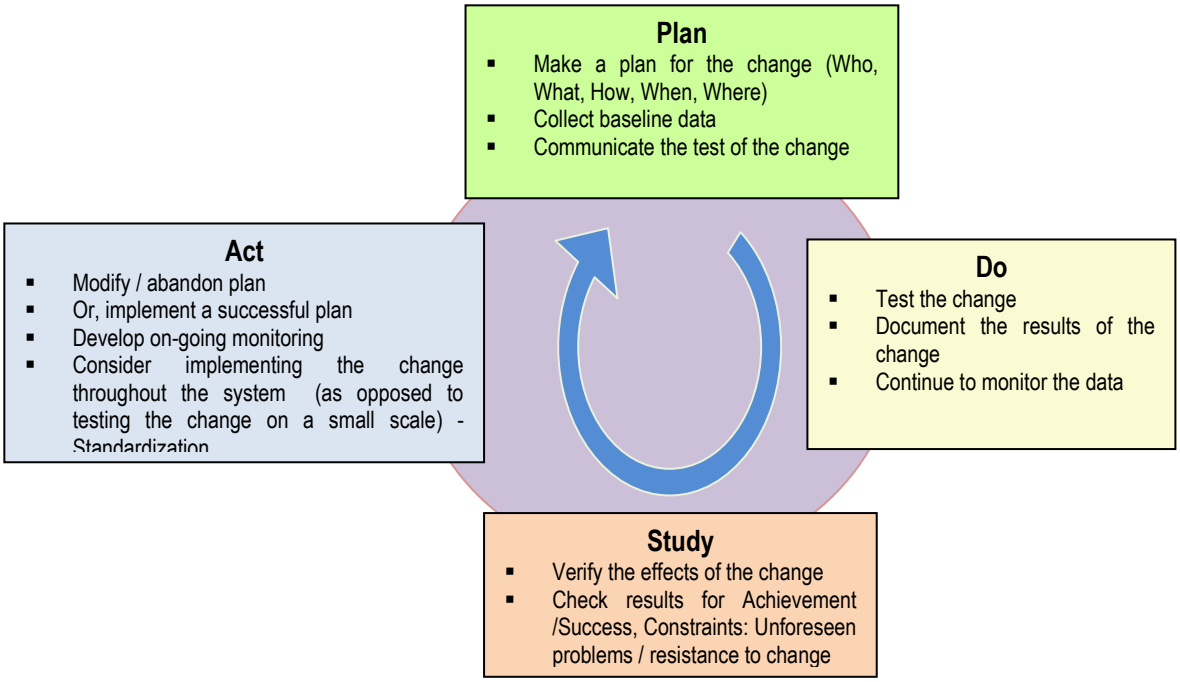
The scientific method generally involves planning a test, conducting the test, and studying the results. Quality management has adapted this method, expanding it by adding "act on what is learned." Thus, the expanded method includes *Plan, Do, Study,* and *Act* (PDSA), also referred to as Shewhart's Cycle for Learning and Improvement. PDSA is a four step process included in the testing and implementation stage of every QI method.

3.3.1 The Plan, Do, Study, Act (PDSA) Cycle

The PDSA cycle approach of small scale, rapid tests of change is a recognized approach to achieving this. Using this approach changes can be tested, refined and re-tested a number of times until the change is reliable, quickly and with minimal resource use.

The purpose of PDSA QI efforts is to establish a functional or causal relationship between changes in processes (specifically behaviors and capabilities) and outcomes.

Figure 12: Shewhart's Cycle for Learning and Improvement (Plan, Do, Study, Act Cycle)



Plan

Plan to test the change/possible solution identified in step 3 above. This involves planning for:

- What is to be done
- Who is to do it
- How is it to be done (management of change)
- How will it be monitored

Do

Make changes designed to correct or improve the situation.

- Test the change
- Verify the change is being tested according to plan
- Collect data about the process being changed for the following "Study" step

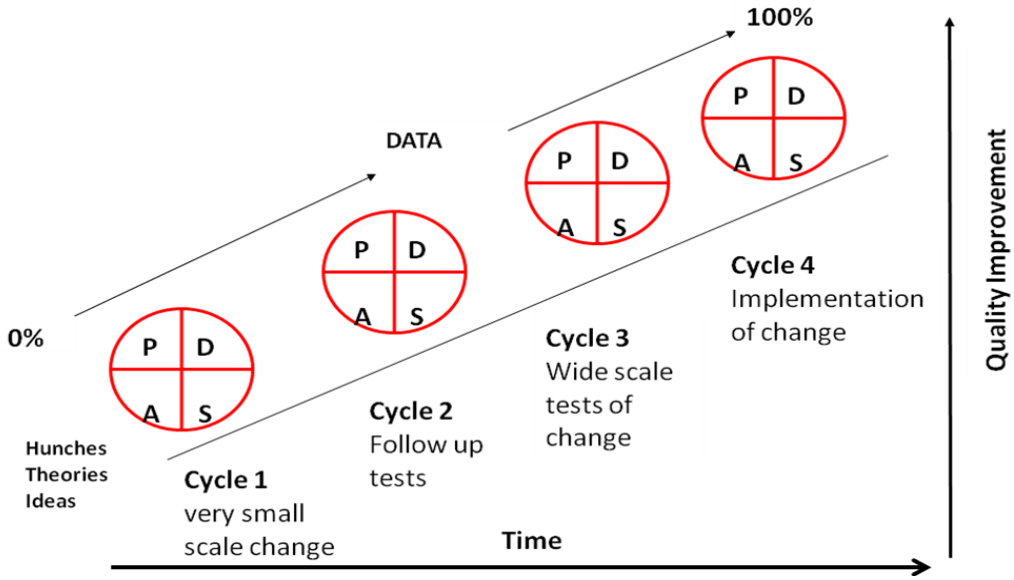
Study

Study the effect of these changes on the situation i.e. achievements / success or constraints: unforeseen problems or resistance to change. Collect data on the new process and compare to the baseline. This is where control charts, documentation journals, pictures, etc are used – they show the effects of changes on a process over time. Evaluate the results and then replicate the change or abandon it and try something different.

Act

If the result is successful, standardize the changes and then work on further improvements or the next prioritized problem. If the outcome is not yet successful, look for other ways to change the process or identify different causes for the problem.

Figure 13: PDSA and CQI



Implementing Changes

After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the team can implement the change on a broader scale — for example, for an entire pilot population or on an entire unit.

3.4 Spreading Changes

Spread is the process of taking a successful implementation process from a pilot unit or pilot population and replicating that change or package of changes in other parts of the organization or other organizations. After successful implementation of a change or package of changes for a pilot population or an entire unit, the team can spread the changes to other parts of the organization or in other organizations.

Spreading changes can be through;

- Diffusion
- Standardization
- Collaboratives

The Collaborative Approach

The collaboratives approach can be used to engage District Health Teams in mentoring facility QI teams as a long-term strategy to improve performance management and institutionalize a CQI function at the district level.

The improvement collaborative is a structured improvement approach that organizes a large number of teams or sites to work together for a 12 to 24 month period to achieve significant improvements in a specific area of care. The collaborative approach combines traditional QI methods of team work, process analysis, introduction of standards, measurement of quality indicators, training, job aids, and mentoring with techniques based on social learning and diffusion of innovation.

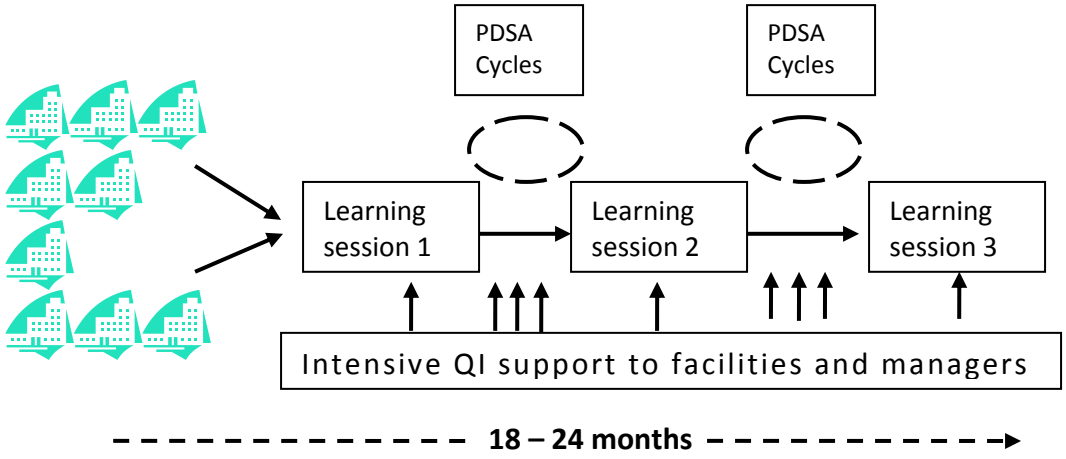
In a collaborative;

1) Teams of health workers work independently to test out changes in how they deliver care that seek to implement best practices and accepted standards for the collaborative's topic area.
2) Teams use a common set of indicators to measure the QoC processes the collaborative is trying to improve and, where possible, the desired health outcomes.
3) The collaborative organizes regular sharing of results among teams through learning sessions in which teams learn from each other about which changes have been successful and which were not. This results in a dynamic improvement strategy in which many teams working on related problem areas can learn from each other in a way that facilitates rapid dissemination of successful practices.

Collaborative runs for 12 – 24 months: ALL TEACH, ALL LEARN.

- Launch with a learning session – 2 days, all participants
    - Share the aim, changes and measures; participants develop action plans.
- Monthly support includes:
    - Compiling monthly reports on changes, data and learning: TRANSPARENCY
    - Feedback and mentoring / coaching based on the reports
    - Facilitate monthly team meetings for all to share & discuss work
    - Guest presentations
    - Sharing of documents and tools
- Hold 2 -3 learning sessions over the collaborative

Figure 14: Convening a learning network



4 Quality Improvement Tools

There are many QI tools however; this manual will focus on those commonly used in Uganda. When you set out to improve quality, the first thing to do is identify the processes that need improvement. This can be done using a number of methods such as reviewing service delivery data, getting feedback from clients through surveys, suggestion boxes, FGDs or simply asking clients about their experiences. Once the problem areas are identified, a brainstorming session should occur with a variety of people who are involved with the processes. The target problems are decided upon and a list of possible causes is identified.

Some of the essential tools for the discovery process are;

PROBLEM IDENTIFICATION AND ANALYSIS TOOLS

1. Brainstorming
2. Pareto Charts
3. Cause-effect / Fishbone Diagrams
4. Flowcharts

DATA MANEGEMENT TOOLS

5. Check Sheets
6. Histograms
7. Run Charts
8. Benchmarking

4.1 Problem Identification and Analysis Tools

Problem identification and analysis tools will be used to define the source of variation in a process, allowing planning to decrease inappropriate variation and improve quality.

1. Brainstorming

This is a way of group to generate as many ideas as possible about a given subject in a very short time. Individuals in a group propose various ideas as they occur to them. Brainstorming sessions can help bring new groups together, and get team function off to a good start. It can be structured (systematic) or unstructured (random). In a structured brainstorming, everybody is asked to make their contribution in an orderly sequence. In unstructured brainstorming, there is no order, and participants contribute randomly.

Rules for brainstorming:

- A chairperson is selected
- The group agrees on the subject / topic
- All ideas are written down as they come
- Ideas presented are not discussed immediately during brainstorming
- While ideas are still coming, no criticism is allowed

After the ideas are exhausted, the group then categorizes priorities, and selects the best ideas, by voting or consensus.

2. **Affinity diagram –** is a tool that gathers large amounts of verbal data (ideas, opinions, issues) and organizes then into groupings based on their natural relationships.

When should we use the affinity process?

The affinity process is formalized in an affinity diagram and is useful when you want to:

- Sift through large volumes of data. For example, a community health worker who is identifying community needs might compile a very large list of unsorted data. In such a case, creating an affinity diagram might be helpful for organizing the data into groups.
- Encourage new patterns of thinking. Since brainstorming is the first step in making an affinity diagram, the team considers all ideas from all members without criticism.

The Affinity Diagram Procedure

Materials needed: sticky notes or cards, marking pens, large work surface (wall, table, or floor).

i. **Generate ideas.** Record each idea with a marking pen on a separate sticky note or card. (During a brainstorming session, write directly onto sticky notes or cards).

ii. **Display the ideas**. Randomly spread notes on a large work surface (notice board, wall, or table) in a random manner so all notes are visible to everyone. The entire team gathers around the notes and participates in the next steps.

iii. **Sort the ideas into related groups.** The team members physically sort the cards into groupings, without talking, using the following process:

- Start by looking for two ideas that seem related in some way. Place them together in a column off to one side.
- Look for ideas that are related to those you've already set aside and add them to that group.
- Look for other ideas that are related to each other and establish new groups.
- The process is repeated until the team has placed all of the ideas in groups.

NOTE: Ideally, all of the ideas can be sorted into related groups. If there are some "loners" that don't fit any of the groups, don't force them into groupings where they don't really belong. Let them stand alone under their own headers.

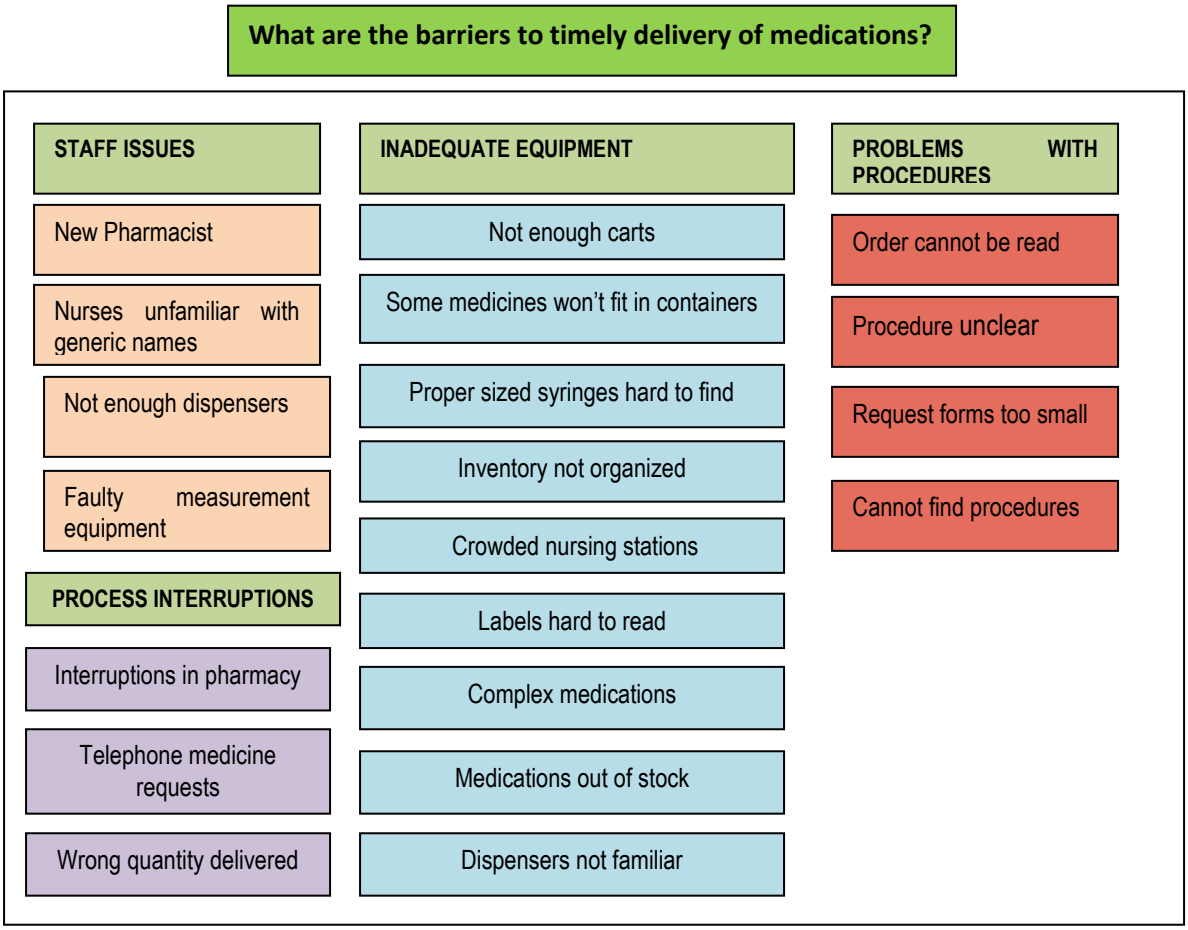
iv. **Create header cards for the groups.** A header is an idea that captures the essential link among the ideas contained in a group of cards. This idea is written on a single card of post-it and must consist of a phrase or sentence that clearly conveys the meaning, even to people who are not on the team.

v. **Draw the affinity diagram**

- Write a problem statement at the top of the diagram
- Place header and superheader cards above the groups of ideas
- Review and clarify the ideas and groupings.
- Document the finished affinity diagram.

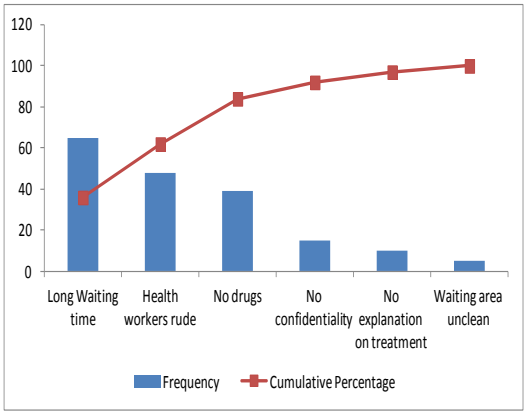
While an affinity diagram may present interesting data and useful ideas, the exercise itself should lead to further analysis. The team can now use a cause-and-effect (fishbone) diagram to get to root causes for the problem stated.

Figure 15: Example Affinity Diagram: Timely Delivery of Medications



3. **The Pareto chart** - help teams focus on the small number of really important problems or their causes. It can be used to display categories of problems graphically so they can be properly prioritized. Pareto charts are useful throughout the performance improvement process - helping to identify which problems need further study, which causes to address first, and which are the "biggest problems."

Figure 16: Pareto Chart



A Pareto chart contains both bars and a line graph, where individual values are represented in descending order by bars, and the cumulative total is represented by the line. The height of each bar reflects the frequency of an item. It shows the proportion of the total problem that each of the smaller problems comprise. Generally, you gain more by working on the problem identified by the tallest bar than trying to deal with the smaller bars.

Once a major problem has been selected, it needs to be analyzed for possible causes. Cause-and-effect diagrams scatter plots and flow charts can be used in this part of the process.

4. The Cause-Effect / Fishbone Diagram

The Cause & Effect (CE) diagrams are often called Ishikawa Diagrams, after the inventor, or 'fishbone' diagrams because it looks like a skeleton of a fish. It is a tool for discovering all the possible causes for a particular effect. The major purpose of the Fishbone diagram is to act as a first step in problem solving by generating a comprehensive list of possible causes.

The Fishbone diagrams allow the team to identify and graphically display all possible causes related to a process, procedure or system failure. The method for using this diagram is to put the problem to be solved at the head, then fill in the major branches. The major categories of causes are put on major branches connecting to the backbone, and various sub-causes are attached to the branches. A fishbone-like structure results, showing the many facets of the problem.

Constructing a Fishbone Diagram

1. **Define the problem (effect) to be solved.** This first step is probably one of the most important tasks in building a cause and effect diagram. While defining your problem or event, your problem statement may also contain information about the location and time of the event. On the cause and effect diagram the problem is visually represented by drawing a horizontal line with a box enclosing the description of the problem on the tip of the arrow.

The "effect" or problem should be clearly articulated to produce the most relevant hypotheses about cause. If the "effect" or problem is too general or ill defined, the team will have difficulty focusing on the effect, and the diagram will be large and complex.

2. Identify the key causes of the problem

- In this step, the primary causes of the problem are drilled down by using brainstorming techniques.
- Often these causes are categorized under
    - Manpower, minutes (time), materials, money, and machines (equipment)
    - People, policies, products and procedures
- The team should add or drop categories as needed when generating causes. Each category (or step) should be written into the box. Generally, using three to six categories works best.
- Figure 16 shows how to visually depict these key causes on the cause and effect diagram.

The group should choose those categories that are most relevant to them, and should feel free to add or drop categories as needed.

3. Identify the reasons behind the key causes

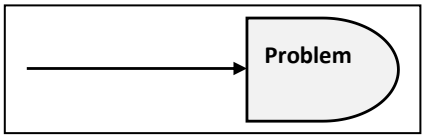
- Brainstorm as many causes for each of the key causes. Tools such as the 5 Whys can help your team to drill down to these sub-causes.
- Each major branch (or step) should include three or four possible causes.
- Keep asking "why?" and "why else?" for each cause until a potential root cause has been identified.
- If a branch has too few, lead the group in finding some way to explain this lack, or ask others who have some knowledge in that area to help.
- These suggestions should be written down and connected to their appropriate key cause arrow (see the figure 16).
- If an idea fits on more than one branch, place it on both.
- Be sure that the causes as phrased have a direct, logical relationship to the problem or effect at the head of the fishbone or tree diagram.

- Check the logic of the chain of causes: read the diagram from the root cause to the effect to see if the flow is logical.

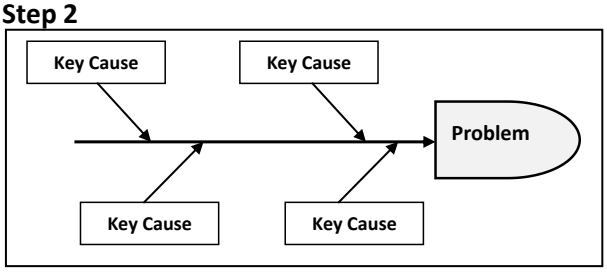
A root cause is one that: (1) can explain the "effect," either directly or through a series of events, and (2) if removed, would eliminate or reduce the problem. Think about and select those causes that, if successfully addressed, will allow you to make significant progress toward the desired result.

Figure 17: Illustration Steps in drawing a fishbone diagram

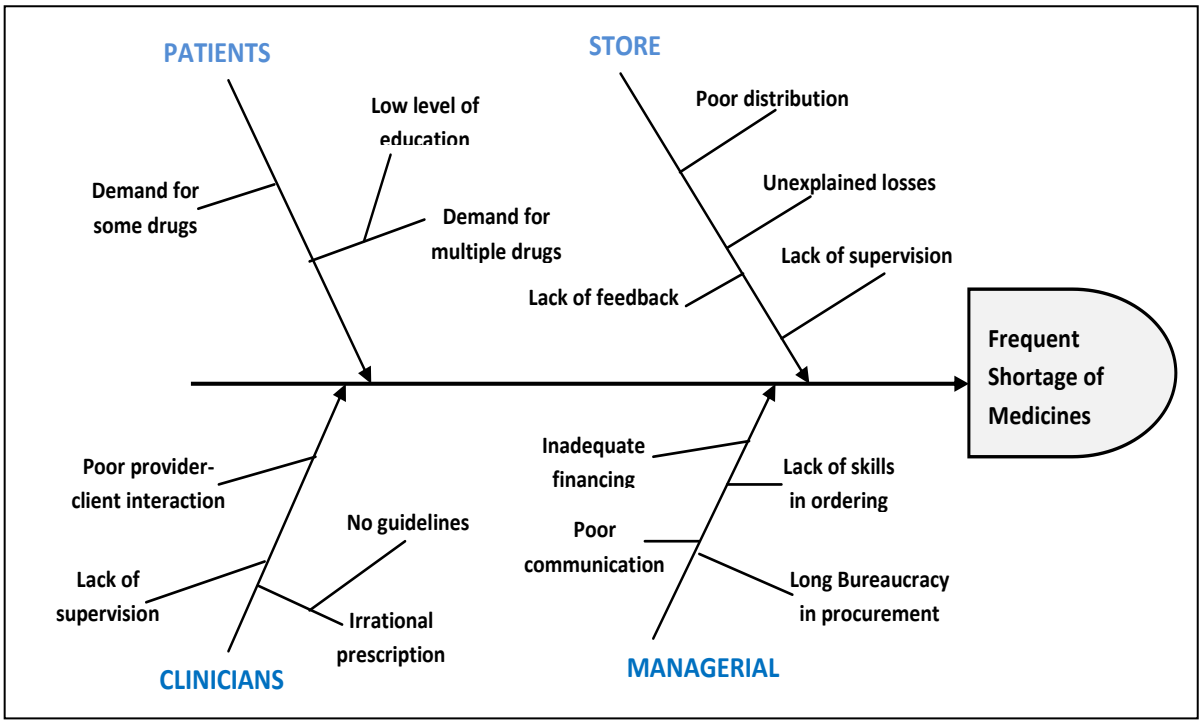
Step 1



Step 2



Step 3



5. Flow Charts

A process map, also known as a flowchart , outlines all the different steps in a process - for example, all the steps that a clinic takes to deliver a particular kind of service. Flow charts are graphic representations of how a process works, showing the sequence of steps. Flow charts help QI teams identify problems that can be fixed. It is a fundamental tool that should be used with all QI initiatives because it gives team a clear insight into its processes.

After a process has been identified for improvement and given high priority, it should be broken down into specific steps and displayed on paper in a flow chart. By writing down each step in a process

currently taking place, a flow chart helps to clarify how things are currently working. If the team cannot agree on where the problems occur, data should be collected to support each argument.

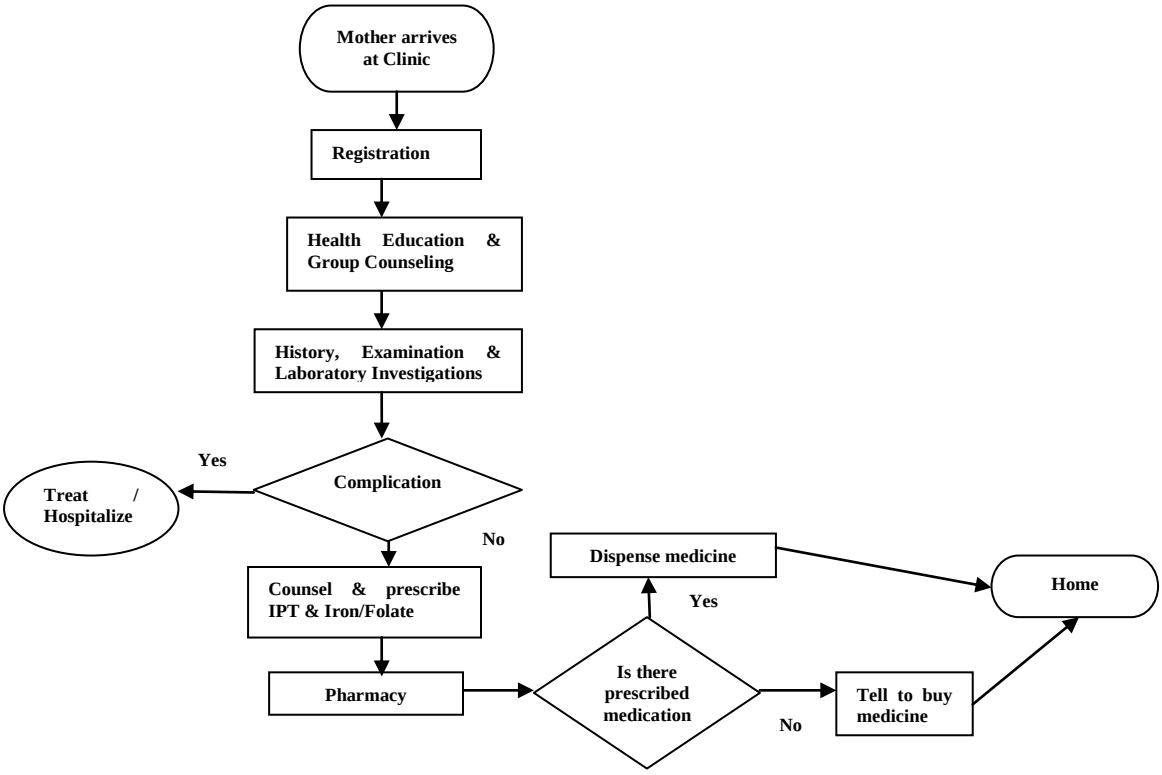
This tool is particularly useful in the early stages of a project to help the team understand how the process currently works. The "as-is" flow chart may be compared to how the process is intended to work. At the end of the project, the team may want to then re-plot the modified process to show how the redefined process should occur.

Once you have completed your flowchart ask the following questions:

- Where are the bottlenecks? How could we address these?
- Are there inconsistencies in how things are done? What can be standardized?
- Can things be done?
    - In a different order?
    - In parallel?
    - By a different person with better or same quality, at lower or same cost?
- Can steps be located closer to each other to reduce travel?
- Does each step add value? If not, can it be eliminated?

QI teams should start with a high-level flow chart (with five to twelve steps). They may then choose to go into greater detail on any particular set of processes where the problems are believed to be the greatest, and generate a more process specific flow chart.

Figure 18: Example of a flow chart of antenatal care services



Flow charts are mainly used to:

- Understand process by identifying flow of events in the process being examined e.g.
    - Number and sequence of steps the users take to use health services
    - Time required for each step
- Detect bottlenecks, unnecessary steps, repetitions and other obstacles

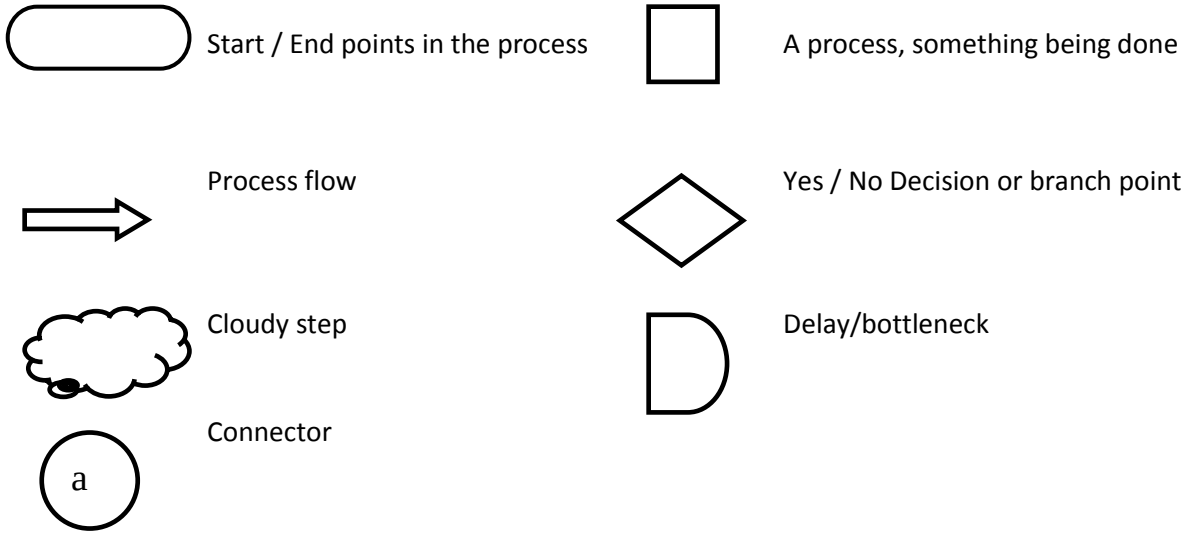
- Consider ways to simplify process to improve it
- Provides a common language or reference point when dealing with a process
- Determine areas for monitoring or data collection
- Identify those to be involved in or affected by the improvement process (facility staff, patients, relatives)
- Identify and allocate tasks in a given process
- Formulate questions for further research
- Benchmark progress

Basic steps to the construction of Flow Charts

1. Agree on purpose and format
2. Determine and agree on end points of the process (inputs & outputs)
3. Identify and list the elements of the flow chart
4. Review first draft for sequence and clarity of steps
5. Review flow chart with group to ensure it reflects what each does

Basic Flow Chart Symbols

Flow charts use a set of standard symbols to represent different actions:



6. Prioritizing

After a number of possible problems are noted, the next step is to prioritize. The problems that are having the greatest effect or present an opportunity for a high-impact "gain" in a short turnaround time are the highest priority items. It has been "discovered" time and again that a great percentage of the trouble in nearly all processes is caused by a small percentage of the total factors involved.

Project Prioritization Matrix

A project prioritization matrix is used when multiple existing or proposed projects create competing priorities for team members. The tool helps determine the order in which projects should be completed or implemented, considering various factors. Team members rate each factor and assign a weight if needed. The sums will indicate the best opportunity, where the team should focus resources.

How to Use a Prioritization matrix

Step 1: Determine the projects that are possible, and list them on one side of an empty matrix.
Step 2: Brainstorm important factors or criteria that will be used to evaluate the options and list them across the top of the matrix, along with a weight or importance multiplier for each.
Step 3: Fill in the matrix by ranking each project in each of the factor areas.

Step 4: Sum the totals of each factor.
Instructions: Rank each of the focus areas according to the following:

1. Is it a gap (1 = not a gap to 5 = It is a big gap)
2. Can you do something about it? Feasibility (1 = Nothing can be done to 5 = Yes it is easy and highly feasible)
3. Can you access the necessary resources to do this? (1 = No to 5 = Yes resources are readily available)

In the example in Table 4, the team used the following criteria gap, feasibility and affordability. After ranking each project against these criteria and summing the ranks, the team found Project G to be the best project to complete at this time.

Table 4: Example Project Prioritization Matrix

	FOCUS AREAS	GAP (1 TO 5)	FEASIBILITY (1 TO 5)	AFFORDABILITY (1 TO 5)	OVERALL RATING
A.	HIV Counseling and testing in ANC	3	5	4	12
B.	Initiation of HIV+ pregnant women on ART	1	5	3	9
C.	Initiation of HIV positive lactating women on ART	1	5	4	10
D.	Retesting of HIV negative pregnant women	5	4	2	11
E.	All babies get their first DBS test at 6 weeks	5	4	2	11
F.	DBS results are given to caregivers	1	5	3	9
G.	All infants born to HIV+ mothers receive ART prophylaxis at delivery	4	5	5	14
H.	All pregnant and lactating mothers receive maternal nutrition assessment and counseling	1	5	5	11

A Prioritization Matrix is useful to:

- Determine the effect of a variety of choices regarding an issue/objective/variable.
- Identify a number of variables and their relationship to each other.
- Define and apply weights to different factors affecting the establishment of priorities.
- Establish priorities among a number of complex variables with multiple factors affecting their relative priorities compared to each other.
- Group variables in clusters of relative importance or priority.

4.2

4.3 Data Collection and Analysis Tools

Data must be collected and analyzed. A number of tools can be used for data collection and analysis including check sheets, histograms, run charts, etc.

1. Check Sheet (Tally Sheet)

The check sheet is a simple document that is used for collecting data in real-time and at the location where the data is generated. The document is typically a blank form that is designed for the quick, easy, and efficient recording of the desired information, which can be either quantitative or qualitative. When the information is quantitative, the check sheet is sometimes called a tally sheet. The HMIS provides tally sheets for various routine data needs e.g. immunization, OPD attendance, etc.

Example of a tally

	Mon	Tues	Wed	Thur	Fri	Total
BCG Vaccination	𝍸 𝍸 𝍸	𝍸 𝍸 |	𝍸	𝍸 |	||||	43
Measles	𝍸	||	||||	𝍸	|||	19
DPT	𝍸 𝍸	𝍸 ||	𝍸 𝍸 ||||	𝍸 ||||	||	42

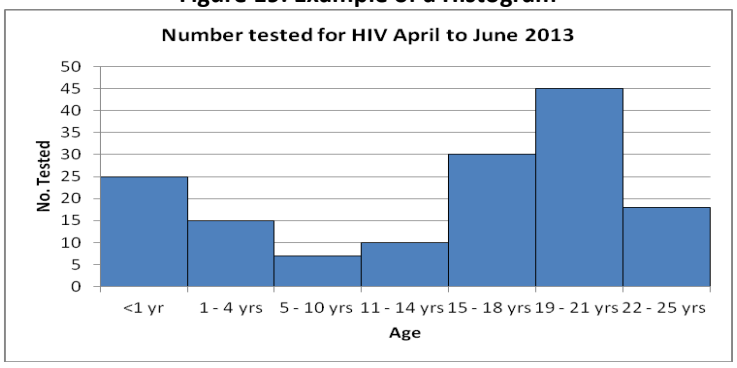
2. Histogram

Data collected on the check sheet is put on the histogram. This is a vertical bar chart which depicts the distribution of a data set at a single point in time. A histogram facilitates the display of a large set of measurements presented in a table, showing where the majority of values fall in a measurement scale and the amount of variation.

The histogram is used in the following situations:

1) To graphically represent a large data set by adding specification limits one can compare.
2) To process results and readily determine if a current process was able to produce positive results and assist with decision-making.

Figure 19: Example of a Histogram



3. Run Chart (Time Series)

A run chart is a line graph of data plotted over time. Run charts give a picture of a variation in some process over time and help detect special (external) causes of that variation.

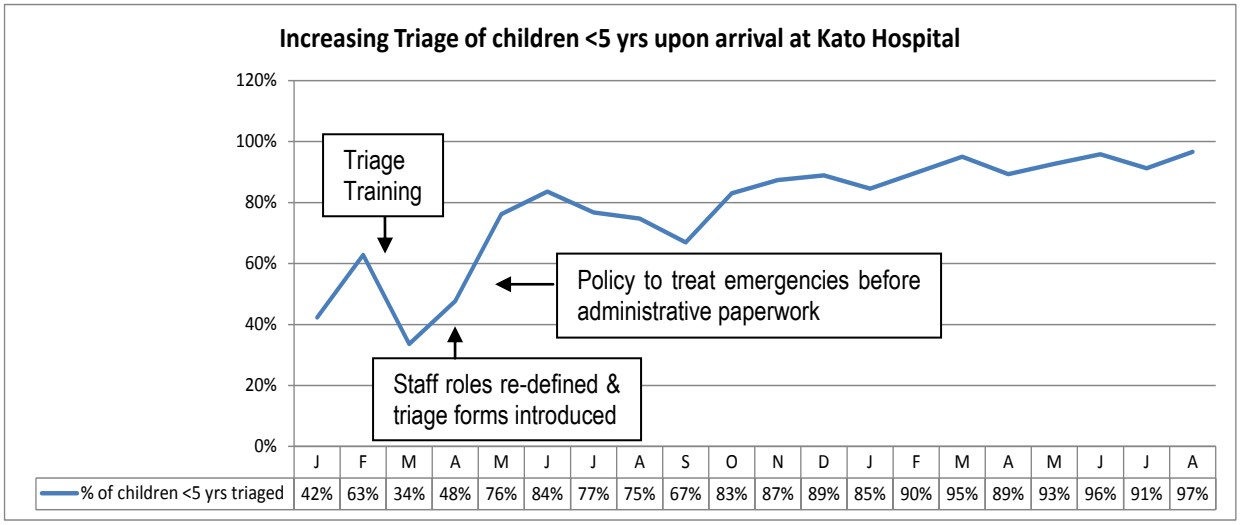
Run charts graphically display shifts, trends, cycles, or other non-random patterns over time. They can be used to identify problems (by showing a trend away from the desired results) and to monitor progress when solutions are carried out.

The primary advantage of using a run chart is that it preserves the time order of the data, unlike statistical tests of significance that generally compare two or more aggregated sets of data. It is easy to construct and simple to interpret.

Features of a run chart

1. The horizontal axis is most often a time scale (e.g. days, weeks, months, and quarters) but could also include sequential patients, visits or procedures.
2. The vertical axis represents the quality indicator being studied (e.g. infection rate, number of patient falls, readmission rate).
3. Goal lines and annotations of changes and other events can also be added to the run chart.

Figure 20: Example of a run chart



Numerator and denominator values shown for each month

	2012												2013							
Month	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A
No. of <5 yrs triaged upon arrival	52	88	42	112	96	102	99	86	77	83	90	112	93	106	114	92	89	115	104	114
No. of <5 yrs attending OPD for treatment	123	140	125	130	126	122	129	115	115	100	103	126	110	118	120	103	96	120	114	118

Usually, the median is calculated and used as the chart's centerline. USE baseline data to create MEDIAN. It provides the point at which half the observations are expected to be above and below the centerline and (2) the median is not influenced by extreme values in the data

An important concept to keep in mind as you interpret data is the idea that there is variation in every measurement. Some variation is normal and other variation can signal that there is an improvement in or worsening of the current situation. The different types of variation are known as common cause and special variation.

To determine objectively when these data signal a process improvement, we use the median and run chart rules.

As a rule of thumb there would be;

1. **A shift** (If you see six-eight or more consecutive points on one side of the center line that indicates a special cause has influenced the process. Points on the center line don't count; they neither break the string, nor add to it)
2. **A trend six** consecutive jumps in the same direction indicate that a special cause is acting on the process to cause a trend. Flat line segments don't count, either to break a trend, or to count towards it.
3. **A run** (should be either too few or too many. No. of runs =crosses +1)
4. **An Astronomical point** (Being unusual shows us non-randomness)
5. **Pattern:** If you see a pattern that recurs eight or more times in a row, it is a good idea to look for a special cause.

These rules help us see early signals of improvement or degradation BUT we cannot know if the process is STABLE (sustainable).

Figure 21: Rule 1: Shift

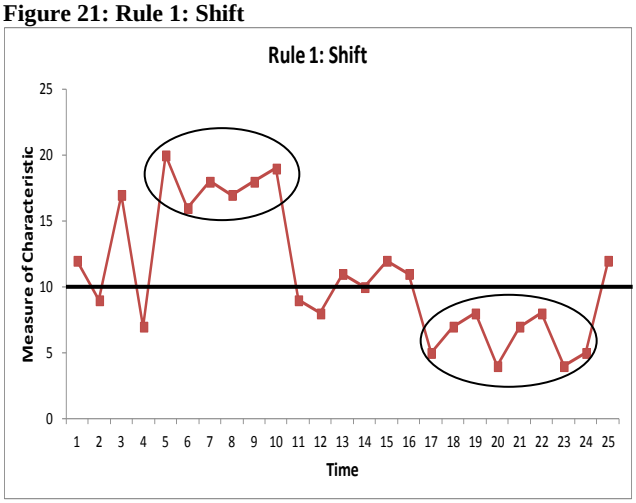


Figure 22: Rule 2: Trend

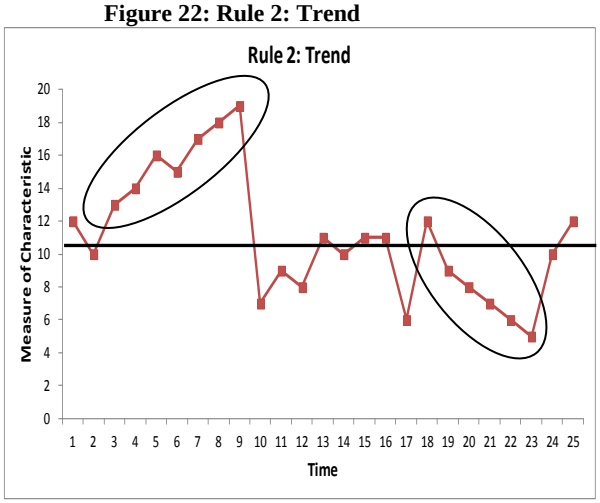


Figure 23: Rule 3: Number of Runs

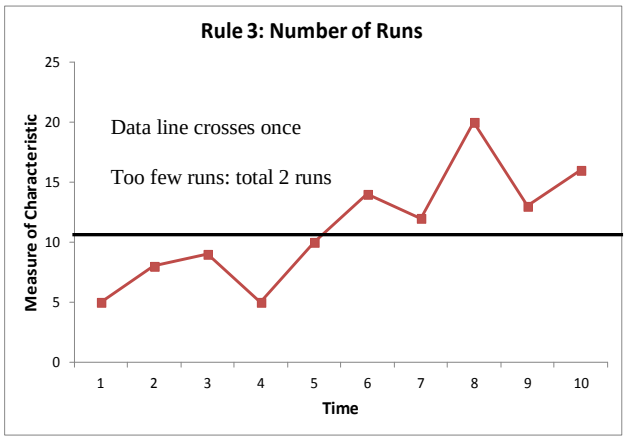
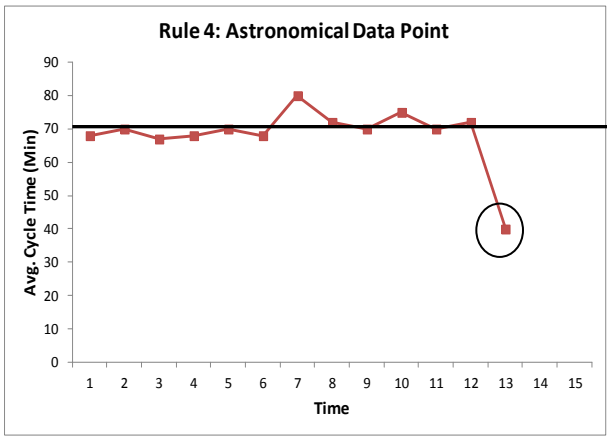


Figure 24: Rule 4: Astronomical Data Point



4. **Benchmarking**

Best practices benchmarking is a systematic approach for gathering information about process or product performance and then analyzing why and how performance differs between organizations or units. It is a technique for learning from others' successes in an area where the team is trying to make improvements. It also means using someone else's successful process as a measure of desired achievement for the activity at hand.

How to use benchmarking

1) Identify other groups, organizations or health facilities that serve a similar purpose and appear to work well.
2) Visit these sites and talk to the managers and workers, asking them what they are doing, if they have similar problems, what they have done about it, and what level of performance they have achieved. Ask as well what obstacles they have run into and how they have deal with them.
3) Review how the situation and constraints for the process in question are similar to or different from theirs and determine if changes are needed in carrying out their plan.

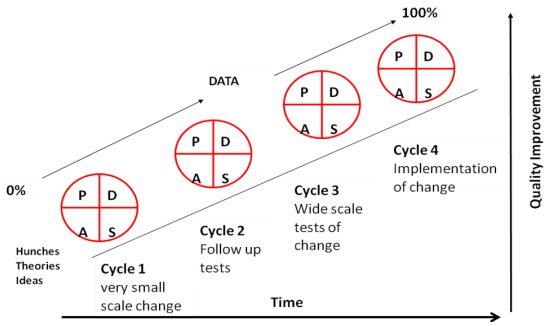
5 Guide to Implementing QI in a Health Facility

To effectively cultivate a QI culture in a facility, there are certain key activities to be considered. Some of these activities can be carried out at the same time.

5.1 Key Activities in implementation of QI

The QI Team needs to ensure that the following activities are undertaken with leadership involvement;

1) Seek commitment of the management to ensure participation and support improvement
2) Create awareness among staff
3) Form a multidisciplinary Facility QI team and Work Improvement Teams
4) Review present state of quality
5) Develop an action plan
6) Develop/adapt written guidelines / protocols
7) Organize / carry out facility QI training
8) Apply skills to continuously improve your performance
9) Monitor implementation
10) Share results periodically with other staff, clients and stakeholders



1) Seek commitment

The participation and support of the organizational management is very key for the success of most QI programs. Thus the QIT should ensure that if the management has not been involved in the conception of the QI program, it should seek their commitment from the start. This involves briefing them about the program and what the team plans to do and what support is expected from the organizational management.

2) Create awareness among staffs

It is important that every member of staff (from the lowest to the highest) understands and appreciates the QI concept. A system to create awareness include staff meetings, departmental meetings, brochures, CMEs, etc. Awareness creation should continue until quality becomes part of normal routine work.

3) Form a multidisciplinary QI Team

Teamwork is key to successful QI implementation at the facility level. Each member of staff has a special role to play. The facility QI team or Work Improvement Teams (WIT) should be multidisciplinary (Refer to composition, roles and responsibilities of QI Teams in the Health Sector QI Framework and Strategic Plan). There is the need to ensure that the members are committed to work. The team shall be responsible for planning, implementation and monitoring of QI at the facility or work place. WITs will be constituted to implement specific initiatives at departmental, ward or unit level.

We need to consider the following checklist when forming a team:

- Have we included a representative from each discipline that touches the work?
- Have we considered including non-registered staff who also support the work?
- Have we identified a team leader?
- Do we have a physician champion on the team?
- Should we include a constructive skeptic on our team?
- Do we have someone with QI skills to facilitate our progress?
- Should we consider an external stakeholder?

4) Review the present state of quality performance at the facility

Before you can take any meaningful step to improve quality, you need to know your present state of quality performance in your institution. How can this be achieved? You can get information from normal routine records, results of patient satisfaction survey, etc. You then determine where you want to focus and improve performance using the QI tools described in section 5 of this manual.

It is important to remember that every QI initiative needs a clearly defined aim. The aim should answer the question, *"What are we trying to accomplish?"* It should have the following characteristics:

- **Clear -** To create a clear plan, you need a clear aim
- **Time-specific -** Set a goal date for when you want to accomplish your aim.
- **Providing real value -** Ensure that your aim has real value to your clients.

5) **Develop an action plan for the selected QI Project.** The action plan is a list of all the activities the team wants to do and how to do those activities to achieve the improvement aim. The action plan also lists the person or persons who will do the activities, when the activities will be done and the resources needed. The action plan will help the group to:
    - Remember all the work that has to be done.
    - Be well organized in performing the activities.
    - Complete the activities.

Steps in developing an action plan

1) Determine if a committee or workgroup team is needed to develop the action plan, and who should participate to increase the likelihood of success.
2) Work with the team to develop a common understanding of the objective, strategy and performance measure. Define terms as needed for performance measure and update data worksheet. The team members will serve as champions for the strategic plan implementation. They must understand it and be able to explain the logic and importance to others.
3) Determine a baseline if one has not been established.
4) Complete the action plan template which identifies tasks, people and timelines.
5) Track the timelines to ensure project completion.
6) Understand the reporting periods and report results.
7) Evaluate the action plan at the end of each reporting period, and make adjustments as needed.

Table 5: Example Plan of Action

Aim: To reduce hospital acquired infections among patients in the surgical ward from 50% to 10% by December					
Performance Gap / Weakness	**Action / Change**	**Responsible Person**	**Resources needed**	**Timeframe**	**Measurement / Indicator**
Hospital Acquired Infections	Educate health workers on importance of washing their hands between clients	Mary	Health education Materials Venue	June 20th at staff meeting.	No. of H/Ws trained No. of H/Ws washing hands between clients
	Create reminder cards to hang up at the hand washing facilities	Christine	Stationery Printer	10th July	No. of reminder cards hanged No. of H/Ws washing hands between clients

Aim: To reduce hospital acquired infections among patients in the surgical ward from 50% to 10% by December					
Performance Gap / Weakness	**Action / Change**	**Responsible Person**	**Resources needed**	**Timeframe**	**Measurement / Indicator**
	Ensure that hand washing facilities with clean water and soap are always available	Ken	Hand washing facilities, clean water, soap	Daily starting Feb	No. of wards/ consultation rooms with functional hand washing facilities at all times
	Procure more beds for Paediatric ward to avoid sharing beds	Hospital Administrator	Funds	August	No. of beds procured Bed occupancy rate

6) Develop/ adapt written guidelines / protocols

The team at this time looks at how to improve quality according to approved standards and guidelines. Existing guidelines can be obtained from National or District levels. They can be adapted or new ones developed. The most important thing is that all the standards and guidelines are communicated to staff.

7) Conduct training for the QI Team and other staffs

A start up training is conducted for QI team members. This training will cover broad areas on QI principles; setting up process and overall strategies in QI management. The team should be confident enough to initiate the QI process in the facility after the training. Subsequently, there will be the need to train other members of staff. There should also be a system for continuous education.

8) Apply skills to improve QI

At this point, the QI team should be in the position to apply the knowledge and skills acquired to confidently initiate the QI project in the facility. It is usually advisable to start small with indicators which are easy to monitor and see results. You may then expand to other areas based on what the team decides.

A QI project, like any other project, has a beginning, a middle and an end. It is assumed that any QI project fits into an organizational framework that supports and promotes Continuous QI (CQI). A successful QI project team uses structured improvement models and methods similar to those discussed in this manual.

9) Monitor QI implementation

The team should identify a set of indicators to monitor progress. It is important to define the indicators and state the source of data. The team should assign responsibility for regular data collection and analysis.

- Integrate data collection for measures in daily work
- Include the collection of data with another current work activity wherever possible
- Develop an easy-to-use data collection form or make Information Systems input and output easy for clinicians
- Clearly define roles and responsibilities for ongoing data collection
- Set aside time to review data with all those that collect it
- Collect useful data, not perfect data - the purpose of the data is learning, not evaluation
- Use a pencil and paper until the information system is ready
- Use sampling as part of the plan to collect the data to reduce workload
- Use qualitative data (feedback) rather than wait for quantitative data

- Record what went well and what didn't work so well during the test of change

Indicator	Numerator	Denominator	Data source (s)	Responsible person(s)	Frequency of data collection
1.					
2.					
3.					

The QI documentation journal should be used to monitor the progress of the QI projects. In addition to the documentation journal there is the need to meet regularly and review your performance as a team. You can achieve this by holding regular QI meetings. Keep minutes of meetings for reference.

10) Share QI results with other staff, patients and other stakeholders

It is important to share the results of QI performance with other members of staff. This will help to create more awareness, increase commitment and deepen sense of ownership among staff. For example, performance can be presented at staff meetings, learning networks, conferences as well as publications. Other creative ways can be explored to disseminate information to clients e.g. using a patient information desk.

Figure 25: 5S Corner

Figure 26: QI Learning Session

6 Mentoring for QI

Mentoring for QI is a process of helping to identify and develop the skills and knowledge of the health workers, and enabling them to use them to improve their job performance, hopefully leading to the achievement of organizational objectives. It targets high performance and improvement at work, although it may also have an impact on an individual's private life.

6.1 The Goals of Mentoring

The goals of active mentoring for QI are;

- To assure a working knowledge of QI tools and techniques,
- To assist clinics to utilize these tools for specific projects and to evaluate their work.

Through the relationship that is built between the clinic staff and their mentor, a process is facilitated where the clinic can move towards full implementation of a QM program that translates into a dynamic, ongoing activity involving the entire staff.

A mentor is a more experienced individual, willing to share his/her knowledge with someone less experienced in a relationship of mutual trust.

6.1.1 Characteristics of a Good Mentor

- Uses questioning techniques to facilitate client's thought processes to identify solutions and actions rather than taking a directive approach
- Supports by setting appropriate goals and methods of assessing progress in relation to these goals
- Observes, listens and asks questions to understand issues that may be influencing quality of patient care
- Maintains positive regard and at all times is supportive and non-judgmental
- Manages the relationship to ensure the individual/organization receives the appropriate level of mentorship at the right time
- Discourages over-reliance on the mentor
- Encourages independence and capacity building
- Identifies facility-specific training and support needs

6.1.2 Mentoring Skills

1. Communication
2. Presentation skills
3. Conflict resolution
4. Group process/team building
5. QI process and tools
6. Effective meeting skills
7. Ability to ask clarifying questions
8. Ability to give feedback

6.1.3 The Mentoring Process

The mentoring process begins with an initial phase of engagement which includes;

- ✓ An organizational assessment, which identifies the current strengths and weaknesses of the QI program. This data can be obtained from discussions with the QI Focal Person and other staff, review of past performance data and other sources of information.
- ✓ Setting goals for improvement with a quantitative framework for measuring progress.

- ✓ Formulation of the mentorship plan, through which the mentor incrementally guides the team to realize improvement goals.

The Second Phase of the mentorship process has many components, including activities usually described as teaching, facilitating, advising, coaching and advocating. The process of mentoring involves regular, informal discussions with key contacts at the health facility to ensure that activities are moving forward and allowing facilities to know that they have support. Through these activities, staff can realistically undertake the development or refinement of their QI program and system.

6.1.4 Conducting a mentorship visit

The Mentor should start each visit by:

- ✓ covering anything that may have happened since last time;
- ✓ deciding what specific issues will be covered during the visit;
- ✓ asking what the mentee would like to cover during the visit;
- ✓ Asking what the mentee would like to achieve by the end of it.

At the end of each visit, the mentor should check if the mentee feels the visit has been productive or if it should have been handled differently.

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