THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH AND SOCIAL WELFARE

TRAINING PACKAGE
QUALITY IMPROVEMENT OF HIV AND AIDS SERVICES

BASIC QUALITY IMPROVEMENT FOR HIV AND AIDS SERVICES

PARTICIPANT’S MANUAL

September 2011
Final Draft
TRAINING PACKAGE
QUALITY IMPROVEMENT OF HIV AND AIDS SERVICES

PARTICIPANT’S MANUAL

MINISTRY OF HEALTH AND SOCIAL WELFARE
National Aids Control Programme
P.O. BOX 9083
DAR ES SALAAM

Final draft
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<td>ANC</td>
<td>Antenatal Clinics</td>
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<td>ART</td>
<td>Anti Retroviral Therapy</td>
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<td>ARVs</td>
<td>Antiretroviral drugs</td>
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<td>CBOs</td>
<td>Community Based Organizations</td>
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<td>CCHPs</td>
<td>Comprehensive Council Health Plans</td>
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<td>CD4</td>
<td>Cluster of Differentiation 4</td>
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<td>CHMT</td>
<td>Council Health Management Team</td>
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<td>CQI</td>
<td>Continuous Quality Improvement</td>
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<td>CQIT</td>
<td>Council Quality Improvement Team</td>
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<td>CQI-TQM</td>
<td>Continuous Quality Improvement -Total Quality Management</td>
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<td>CRHPs</td>
<td>Comprehensive Regional Health Plans</td>
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<td>DACC</td>
<td>District AIDS Control Coordinator</td>
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<td>DMO</td>
<td>District Medical Officer</td>
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<td>EPI</td>
<td>Expanded Program on Immunization</td>
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<td>FBOs</td>
<td>Faith Based Organizations</td>
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<td>GPA</td>
<td>Global Program on AIDS</td>
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<td>HBC</td>
<td>Home Based Care</td>
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<td>HBCT</td>
<td>Home Based Counselling and Testing</td>
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<td>HF</td>
<td>Health Facility</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HSHAS</td>
<td>Health Sector HIV and AIDS Strategy for Tanzania</td>
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<td>HSHSP</td>
<td>Health Sector HIV AIDS Strategic Plan</td>
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<tr>
<td>HTC</td>
<td>HIV Testing and Counselling</td>
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<td>IEC</td>
<td>Information Education and Communication</td>
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<td>IPOs</td>
<td>Implementing Partner Organizations</td>
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<td>LGA</td>
<td>Local Government Authority</td>
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<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
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<td>MTP</td>
<td>Medium Term Plan</td>
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<td>NACP</td>
<td>National AIDS Control Program</td>
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<td>NCTP</td>
<td>National Care and Treatment Plan</td>
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<td>NEHSHIP</td>
<td>National Essential Health Sector HIV Intervention Package</td>
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<td>NGO</td>
<td>Non Governmental Organization</td>
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<td>NMSF</td>
<td>National Multi-sectoral Strategic Framework</td>
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<td>NQIT</td>
<td>National Quality Improvement Team</td>
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<td>OIs</td>
<td>Opportunistic Infections</td>
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<td>PDSA</td>
<td>Plan Do Study Act</td>
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<td>PITC</td>
<td>Provider Initiated Testing and Counselling</td>
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<td>PLHIV</td>
<td>People Living with HIV</td>
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<td>PMTCT</td>
<td>Prevention of Mother To Child Transmission</td>
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<td>QA</td>
<td>Quality Assurance</td>
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<td>QI</td>
<td>Quality Improvement</td>
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<td>RACC</td>
<td>Regional AIDS Control Coordinator</td>
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<td>RCHS</td>
<td>Reproductive and Child Health Service</td>
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<td>RHMTs</td>
<td>Regional Health Management Teams</td>
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<td>Acronym</td>
<td>Abbreviation</td>
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<tr>
<td>RIP</td>
<td>Regional Implementing Partner</td>
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<td>RMO</td>
<td>Regional Medical Officer</td>
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<tr>
<td>RQIT</td>
<td>Regional Quality Improvement Team</td>
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<tr>
<td>STIs</td>
<td>Sexually Transmitted Infections</td>
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<tr>
<td>TACAIDS</td>
<td>Tanzania Commission for AIDS</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>TQIF</td>
<td>Tanzania Quality Improvement Framework</td>
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<tr>
<td>TQM</td>
<td>Total Quality Management</td>
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<tr>
<td>TWG</td>
<td>Technical Working Group</td>
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<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
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<td>ZTCs</td>
<td>Zonal Training Centres</td>
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FOREWORD

In 1993 the Ministry of Health (MoH) embarked on Health Sector Reforms (HSRs) aiming at improving the quality of the services provided at Health facilities and developed the Tanzania Quality Improvement Framework (TQIF) as a guiding document for quality improvement in health service provision. In recognition of the need to improve the quality of services many stakeholders have been undertaking initiatives geared towards improving quality of services at facility level. Much of the impetus for this initiative has focused on improving the HIV and AIDS services in the country. However, these QI initiatives have so far used different approaches in design, process, monitoring and reporting structure. In this context, the Ministry of Health and Social Welfare (MOHSW) developed an HIV and AIDS QI guideline based on strategies and actions stipulated in the TQIF to ensure that QI in HIV and AIDS interventions are implemented in a harmonized way.

Following the approval by the Ministry of Health and Social welfare of the National Guidelines for Quality Improvement of HIV and AIDS Services, November 2010, the need emerged to develop the training package for Quality Improvement. Its goal is to enable the service providers to plan, conduct, monitor and evaluate improvement of quality of HIV and AIDS services in accordance with the National Quality Improvement Guidelines for HIV and AIDS Services. At the end of the training the service providers are expected to:

- Explain the concepts of Quality in health care settings
- Identify the principles of quality improvement
- Explain roles and responsibilities of different levels of the health system in sustaining implementation of Quality Improvement culture at health facility level
- Describe the Quality Improvement model
- Plan, implement and sustain activities to improve quality of HIV and AIDS services

The QI training package for HIV and AIDS services is aimed to be used in training health care providers country-wide and is arranged into three units. The first unit provides background information regarding QI in Tanzania and is subdivided in three sessions touching up on QI in Tanzania, the concepts of quality in health care and the dimensions of quality. The second unit presents QI and its principles and is subdivided in four sessions including: focus on client needs, expectations, communication and gaining feedback, focus on team work, on measurements and on systems and processes. Unit 3 is divided into four sessions. The first two sessions take the participants through the various steps and approaches in QI. The third session covers roles and responsibilities of different levels of the health care system in supporting implementation of QI activities whereas the fourth session is a practicum on planning and implementing QI at health facility level.

The facilitation training package features the learning and teaching methods. Firstly, it is based on adult learning principles, which means that it is interactive, relevant and practical. Moreover, it requires that the trainer facilitates the learning experience rather than serving the more traditional role of a teacher or lecturer. Secondly, it involves the use of behavior modeling to facilitate learning a standardized way of performing a skill or activity. Thirdly, it is competency-based. Through structured exercises and mini-lectures providing the need-to-know facts, the training package is meant to help users to reflect routine health care delivery processes in their local settings and stimulate innovations and creativity as they think how to design strategies to improve care.

The MOHSW urges all stakeholders providing HIV and AIDS services to use this QI training package for HIV and AIDS services consistently and offer critical comments for improving future editions of this document.

Blandina S. J. Nyoni

PERMANENT SECRETARY
Ministry of Health and Social Welfare
ACKNOWLEDGEMENTS

Following the development of the National Guidelines for Quality Improvement of HIV and AIDS Services, November 2010, there was a need for a training package to facilitate and harmonize the training of health care providers at all levels of the health system to enable them to follow the Guidelines to implement and sustain Quality Improvement activities at health facility level country-wide. This training package that consists of a Facilitators Guide and Participants Manual is intended to serve as a guide for trainers with or without prior quality improvement experience in enabling trainees to acquire appropriate knowledge and skills in the implementation of Quality Improvement activities at the respective level of health care delivery.

The training package was developed based on the Tanzania Framework for Quality Improvement (TQIF) as well the National Guidelines for Quality Improvement of HIV and AIDS Services. In addition, the training package has been customized to the Tanzanian situation as it has drawn lessons from experience gained during the field implementation of quality improvement for HIV and AIDS services, piloted in collaboration with RHMT, CHMT and selected health facilities providing Care and Treatment and PMTCT services in Tanga, Morogoro, Mtwara and Lindi regions.

The process of developing the training package for HIV and AIDS service has been coordinated by the National Aids Control Program (NACP), in collaboration with key stakeholders who provided technical and financial support to ensure successful completion of the package. The Ministry of Health and Social Welfare would like to thank PharmAccess International (PAI) and University Research Company (URC) for the overall technical and financial support leading to finalization of this training package. Our appreciation also goes to the Regional and Council Health Management Teams (R/CHMT), Health Facility staffs, World Health Organization (WHO), AIDS Relief Consortium, Family Health International (FHI), Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), Clinton HIV/AIDS Initiative (CHAI), Regional Implementing Partners, who participated in the development and series of reviews of the drafts of the package.

The Ministry of Health and Social Welfare would like to recognize the efforts from all Heads of Units at the NACP for their active participation in the review process and for their valuable contributions. Special gratitude goes to the Technical Working Group that worked tirelessly from initial drafting and subsequent reviews leading to finalization of this document. The following individuals deserve a special mention for the efforts they put in developing the QI training package for HIV and AIDS service:

Dr. Rowland. O. Swai MOHSW-NACP Dr. Jan van den Hombergh PharmAccess
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Dr. H.A Ngonyani MOHSW- HSIU Dr. Hobokela Stephen URC
Dr. Robert Josiah MOHSW -NACP Dr. Peter Risha PharmAccess
Dr. Gissenge J.I.Lija MOHSW- NACP Dr. Stella Kasindi NACP/WHO
Ms. Lilian Chovenye MOHSW –NACP
Dr. Peter Mgosa MOHSW/NACP Mr. Jared Mussanga URC
Ms. Joan Kimirei PharmAccess Ms. Farida Mgunda URC
Dr. Elizabeth Hiza URC Ms. Suzanne Spierings PharmAccess
Mr. Daniel K. Kayanda PharmAccess Ms. Monica Ngonyani URC
Dr Yohana Mkiriamweni CHAI Mr. Ivan Teri EGPAF
Dr. Benedicta Masanja FHI/TUNAJALI Ms. Michele Mshi URC
Dr. Otilia Gowele MOHSW-Kilosa COTC

Since it is not possible to mention everyone by name, the MOHSW also would like to thank all who contributed in one way or another in the preparation of the package.

Dr. Deo M. Mtsiwa

CHIEF MEDICAL OFFICER
Ministry of Health and Social Welfare
INTRODUCTION

This participant’s guide is intended to be one of the tools to guide participants in enabling to acquire appropriate knowledge and skills in the implementation of Quality Improvement activities at the respective level of health care delivery.

Following the development of the National Guidelines for Quality Improvement of HIV and AIDS Services, November 2010, there was a need for developing the training package for Quality Improvement.

Health services in Tanzania are organized in four levels: national, regional, district and facility level. National and regional levels are involved in policy, coordination and guidance, while district and facility levels are responsible for direct implementation of the QI strategy. Each level has a critical role in ensuring efficient and effective running of the QI program.

1. National level
   The MOHSW aims at rapid rollout of Care and Treatment services hand in hand with ensuring quality services to those in need. As more implementing partners are introducing QI approaches for HIV and AIDS services, coordination becomes important to ensure uniformity, which calls for formulation of national policy guidelines.

2. Regional level
   At the regional level, the RHMT and HIV and AIDS Implementing Partner Organizations (IPOs) will work together to build QI culture in their Region. The RHMT, being the Government arm, will provide leadership to all stakeholders in QI activities connected to policy, coordination, advocacy and communication.

3. District level
   Implementation of the health care policy has been decentralized to Local Government Authorities (LGAs). The day to day implementation of health services including QI is therefore the responsibility of CHMTs. In this regard, Councils have responsibility of ensuring availability of adequate resources for provision of quality health services.

4. Health Facility Level (other Hospitals and Primary Health Facilities)
   The roles and responsibilities of health facilities have been broadly described in intervention specific guidelines.

Aim of the participants guide
The main aim of this guide is to enable the trainers, the trainee and supervisors of QI to implement effectively and standardize the HIV and AIDS services delivery. The Participants will use this guide in orienting himself/herself during and after the actual training as reference material.

Goal and objectives of the participants guide
The goal is to enable the service providers to plan, conduct, monitor and evaluate the HIV and AIDS services in accordance with the National Quality Improvement Guidelines for Quality Improvement of HIV and AIDS Services.
General objectives
At the end of the training the service providers are expected to:
• Explain the concepts of quality in health care setting
• Identify the principles of QI
• Explain roles and responsibilities of a leader in QI
• Describe the QI model

Course organization

Course duration:
The course will be of four (5) days for both theory and practical.

Time allocation:
<table>
<thead>
<tr>
<th>Theory</th>
<th>25 hours</th>
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<tbody>
<tr>
<td>Practical</td>
<td>08 hours</td>
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<tr>
<td>Total</td>
<td>33 hours</td>
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Characteristics of trainees:
Trainees will be health management teams such as RHMTs, CHMT and HMT. Also health care providers working with public and private health facilities, e.g. Registered Nurses, Enrolled Nurses, Clinical Officers, Clinical Assistants, Pharmacists, Pharmaceutical Technicians, Laboratory Technicians, Medical Officers, Assistant Medical Officers, Health Officers and support staff.

Teaching methods and materials
In the guide a number of teaching methods have been suggested for use by the trainer and trainee. They include:
• Brainstorming
• Lecture- discussion
• Small or large group discussion
• Individual assignments
• Role plays
• Buzzing
• Demonstration
• Case studies

Practicum assignments

Practicum objectives
During practicum training, trainees will be guided to perform procedures following objectives:
• Identify problems for HIV and AIDS services
• Analyse problems
• Develop and document changes
• Test and implement change, all as guided by the Standard Evaluation Form/System (SEF/S)
• Fill in a matrix the tested changes
• Provide feedback for the tested changes
Unit 1: Background to QI in Tanzania

Unit objectives
By the end of this unit, you will be able to:
- Explain milestones of the national response to the HIV and AIDS epidemic in Tanzania in relation to the QI efforts
- Describe the concept of quality
- Describe the dimensions of quality

Session 1.1: Introduction to QI in Tanzania

Session objectives
By the end of this session, you will be able to:
- Explain the milestones for national HIV and AIDS response
- Describe the background of QI in Tanzania
- Describe the rationale for QI in health care

Introduction
Efforts by the government to improve the health services in the country date back to the immediate post-independence era and have seen a substantial increase in the number of health facilities, associated with an increased training of human resource to run them. The scale up of efforts to provide improved access to health services was constrained by the economic slump of the 1980s and one of the effects was a compromise in the efforts to provide quality health services. In 1993 the Ministry of Health (MoH) embarked on Health Sector Reforms (HSRs) aiming at improving the quality of the services provided at health facilities and developed the Tanzania Quality Improvement Framework (TQIF) in 2004 as a guiding document for QI in health service provision. In realization of the scope of process of quality improvement of different components of health service provision, TQIF encourages stakeholders to make initiatives focusing on area of interest, but by working within the framework to improve quality of services provided.

Milestones in the national HIV and AIDS response
Tanzania, being one of the Sub-Saharan countries most affected by the HIV and AIDS epidemic, has been taking a number of control measures since the first AIDS case was detected back in 1983. The first institutional mechanism in responding to the HIV and AIDS epidemic was the establishment of a task force by the Ministry of Health to implement a Short Term Plan in 1985. In 1988, the Ministry of Health established the National AIDS Control Programme (NACP) to coordinate the National Response and took responsibility for the formulation and implementation of the three Medium Term Plans (MTPs I-III) leading up to 2002.

During this period (1987 - 2002), most activities conducted were preventive in nature. As such, very little change could be seen in most health facilities since services offered did not differ from the existing routine health services except in scope and linkage to HIV and AIDS. Following scientific advances in development of Antiretrovirals (ARVs) and global initiative to provide ARVs at subsidized cost, the
focus of HIV and AIDS interventions shifted from being predominantly preventive to include care and treatment.

Realizing this paradigm shift from preventive activities to include care and treatment, two main national strategic approaches were developed at the beginning of 2003 namely: the Health Sector HIV and AIDS Strategy for Tanzania 2003 - 2006 (HSHAS) under the leadership of Ministry of Health (MOH) and the National Multi-sectoral Strategic Framework on HIV and AIDS1 (NMSF) spearheaded by the Tanzania Commission for AIDS (TACAIDS). These strategies signified important departure from the previous approaches, with NACP focusing on health and medical issues of the epidemic, while TACAIDS provided a framework for other players in the multi sectoral response to develop their own sectoral strategies.

Milestones for National HIV and AIDS response

QI in health services in Tanzania
The National Health Policy aims at ensuring access to health care services of acceptable quality to all Tanzanians. To realize this commitment, the Ministry of Health and Social Welfare (MOHSW) has designed health system for health care delivery which has resulted into considerable expansion of health services in the country. The MOHSW has also developed policies strategies and guidelines for building sustainable capacity of health facilities to deliver services meeting prescribed standards. The ongoing Health Sector Reforms (HSR) is part of such efforts which have focused on the administrative structure and resource allocation. In another effort, the MOHSW developed the Tanzania Quality Improvement Framework (TQIF)2 whose objectives were to:

- Provide a framework for implementing quality improvement initiatives at facility level
- Encourages intervention specific approach to improving quality of health services
- Outline level specific responsibilities for quality improvement in health services

The TQIF recognizes the importance of encouraging health workers and stakeholders at all levels to develop a culture of quality in healthcare provision. TQIF

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1 National Multi-sectoral Strategic Framework. TACAIDS 2003
2 Tanzania Quality Improvement Framework, Ministry of Health and Social Welfare, September 2004
also outlines critical steps to be considered in initiating and institutionalizing the culture of provision of quality of healthcare in all health facilities in the country by using available resources rationally.

**Improving quality of HIV and AIDS services**

The considerable expansion of HIV/AIDS services seen during the implementation of HSS 2003 – 2006 has resulted into a rapid scale up in the delivery of HIV and AIDS interventions in all four thematic areas of the health sector response to the pandemic, being

1. Prevention
2. Care, Treatment and Support Services
3. Cross-cutting issues
4. Health Systems Strengthening

The MOHSW has continued to set out strategies and guidelines to harness efforts towards achieving universal access to all in need of HIV and AIDS services without compromising quality of service as spelled out in the national health policy. For example:

- One of the three goals of the HSHSP–II (2008 -2012) is to improve the quality of HIV and AIDS interventions to the general public, PLHIV, health care providers and other vulnerable populations
- In the overall Health Sector Strategic Plan 2009 - 2015 (HSSP III), QI is one of the crosscutting issue in the plan whose overall objective is to provide quality health services
- Drawing from the framework laid upon in the TQIF, the National Guidelines for Quality Improvement of HIV and AIDS services developed by MOHSW through NACP provides guidance on how QI initiatives of such services can be implemented at facility level

Fig 1.1.2 Cover pages TQIF, National Essential Health Sector HIV and AIDS Intervention Package and National Guidelines for HIV and AIDS services
CHALLENGES

• HIV and AIDS being among the chronic illness, HCWs are compelled to adopt the chronic care model while continuing to provide the comprehensive health care services to the populations they serve.
• Inefficient recruitment and low wedge to human resource for Health in the country.
• Unskilled HCWs to whom the technical care of HIV patients is task-shifted to, are struggling without appropriate technical follow-ups.

Rising to the challenges....

• In efforts to improve quality of HIV&AIDS services stakeholders and most implementing partners have had their own initiatives to improve quality of services in the areas they work

BUT

• There was no national framework for implementing and monitoring HIV and AIDS QI activities at all levels of health care delivery system
  – QI initiative introduced by partners including regional implementing partners uses different approaches.
  – Supervision for HIV and AIDS services has generally been erratic, vertical and unlinked.
  – Mentorship practiced by partners for HIV care and treatment services were not harmonized and with limited coverage

MOHSW/NACP had to

• Clearly define minimum package of HIV and AIDS health services at each level of the health systems in order to assist various levels to plan and avoid duplication of efforts and overload;
• Provided Framework for harmonizing implementation and monitoring of QI strategies related to HIV and AIDS
• Improve supportive supervision to comprehensively cover HIV and AIDS health services; and
• Standardise and set up national mentoring system for HIV and AIDS services

MOHSW/NACP developed:

1. National Essential Health Sector HIV and AIDS Interventions Package (MOHSW, 2010)
3. A Manual for Comprehensive supportive Supervision and Mentoring on HIV and AIDS Health Services (MOHSW, 2010)

Rationale for QI in HIV and AIDS services

• Emergence of new interventions
• Scaling up HIV and AIDS services, while improving and maintaining Quality
• Lack of QI teams at various levels of implementation
Session 1.2: Introduction to concepts of quality in health care

Session objectives
By the end of this session, you should be able to:
- Define quality and quality of care
- Define standards and guidelines

Introduction
It is important for health care workers to understand the basic concepts of quality which include the terms quality, standards, quality assurance and quality improvement that before getting into the actual process of improving the quality of health care services.

Figure 1.2.1 Room in health facility

Figure 1.2.2 Room in a health facility
What is QUALITY?

Definition of quality
The word quality has been associated with excellence, superiority, high caliber, value, worth, performance according to standards and conformance to requirements or specifications. This implies that quality means different things to different people: a quality refrigerator should maintain the proper temperature with minimum energy consumption, quality bus service could mean; on-time, comfortable and reasonable price or affordable cost, while quality health services could imply minimum waiting time, correct diagnosis and prescription, confidential and reasonable charge or affordable charge. while quality health services could imply correct diagnosis, minimum wait time, lower cost and confidential.

For people living with HIV (PLHIV), quality service may manifest itself as effectiveness of care (such as reduction of opportunistic infections, weight gain, resumption to work), respect and compassion from caregivers, clarity and relevance of information given, ease of use of facility (friendliness of support staff, short waiting time, cleanliness of facility, etc.) and confidentiality. For their families, partners and friends quality can mean the same as above and confidence that their loved one is satisfied with care.

In general, quality is complex and multidimensional concept and thus has been defined in different ways, using different terms, labels and models; the choice of which definition depends on intended use. Furthermore, having numerous customers in various different industries, "quality" can mean different things to each customer. To satisfy every customer’s "quality requirement" it simply comes down to "conformance to customer specified requirements".

What is quality of health care?
Experts around the world have for years struggled to formulate a single, concise, generally applicable definition of the quality of health care. There are now several definitions which differ in their emphasis on quality of life, delivery of services and components of care as components of quality only because quality is a multi- faceted concept. In 1990, the Institute of Medicine (IOM) in the USA arrived with one definition after considering over 100 definitions of quality from the literature. This definition appears more often in discussions about quality of medical care. IOM defines quality of health care 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”.

In simple terms, quality of care is:
- Doing the right things (what) - applying correct interventions to meet customer needs
- To the right people (to whom)
- At the right time (when) and
- Doing things right first time applying correct processes, efficiently and on time (using set standards). the UK Department of Health (1997)

The concept of right things right as regards to quality of care can be elaborated using an example of laboratory services in a health facility:

Right things right
Collect blood sample appropriately, put it in the right container, label it correctly and submit to lab on time. The lab test will be conducted as requested in a correct way, the written report and send results to clinic.

Right things wrong
Collect blood sample appropriately, put it in the right container, label it correctly, but left it on the table till next day. Filled out correct form, but provided inaccurate information.

Wrong things right
Conducted wrong lab test, but conducted it correctly. Filled out incorrect form, but provided accurate information.

Wrong things wrong
Conducting wrong laboratory test, and conducted it incorrectly. Filled out incorrect form, and provided inaccurate information.

Guidelines and Standards
Quality of health care is also associated with: compliance with the current GUIDELINES and achieving the set STANDARDS of care.

Guidelines defined
Guideline a detailed as a statement or other indication of policy or procedure by which to determine a course of action or service provision [1].

Guidelines are plans or statements that provide guidance in setting standards or determining a course of action. It is also rule or principle that provides guidance to appropriate behaviour.

In health care, guidelines refers to a recommended practice in health care provision or set of standards according to which certain services should be provided in order to obtain the expected results.

Example:
- National Guidelines for the Clinical Management of HIV and AIDS
- National Guidelines for Quality Improvement of HIV and AIDS Services

Standards defined
A standard of care is a formal diagnostic and treatment process a healthcare provider will follow for a patient with a certain set of symptoms or a specific illness. That standard will follow guidelines and protocols that experts would agree with as most appropriate, also called "best practice". Standards also refers to a statement of "desired"/"achievable" performance of health care intervention which serves as a reference point for evaluation.

- A standard is defined as an explicit predetermined expectation set by a competent authority that describes an organization's acceptable performance level. (An implicit standard can be described as a practice that is simply
“understood.”). Standards are usually set by professional society’s health care organizations, panels of experts or governments.

- They are generally classified as addressing a system’s input, the processes the organization carries out, or the outcomes it expects from the care or services provided.
- A standard is an agreed, repeatable way of doing something through a set of technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to increase the reliability and the effectiveness of the goods and services we use.

Examples:
- All HIV exposed infants should be initiated on cotrimoxazole starting at the age of 4 weeks.
- Wear gloves when drawing blood

Use of standards
Standards are used to objectively measure an organization’s performance. When the organization performs to the minimum level of desired standards, it will be awarded a license that allows it to deliver the services. As performance improves to the maximum level of Standards as objectively measured, it will be Certified or Accredited for meeting the highest expected standards.

Standards describe explicitly who should be doing what, in which way, at which level of the health system at what time and the expected output.

Example:
For provision of HIV services, the following standards should be observed:
- Trained Providers for provision of HIV care according to National Guidelines
- Facility with rooms that provide for privacy
- Confidential record keeping
- Facility to have the capacity to conduct HIV screening
- Care provided must include counselling, testing and adherence counselling
Session 1.3: Dimensions of quality

Session objectives
By the end of this session, you will be able to:
- Define the dimensions of quality
- Describe the dimensions of quality and cite examples of quality for each dimension
- Link the dimensions of quality to service delivery

Introduction
In health care, dimensions of quality refers to aspects of care or service provided to clients which individually or together contribute to the framework on which quality of services provided can be judged. Various dimensions of quality have been developed from the technical literature on quality and synthesize ideas from various QI experts. Together, they provide a useful framework that helps health teams to define, analyze, and measure the extent to which they are meeting facility standards for clinical care and for management services that support service delivery.

Dimensions of quality
The following nine dimensions of quality when put into consideration during health care service delivery are known to contribute to better client outcomes as well as patient satisfaction.

1. Technical performance
2. Effectiveness of care
3. Efficiency of service delivery
4. Safety
5. Access to service
6. Interpersonal relations
7. Continuity of services
8. Physical infrastructure and comfort
9. Choice of services

While all of these dimensions are relevant in health care service delivery, not all nine deserve equal weight in every healthcare intervention or applicable in each country. Each should be defined according to the local context and specific health intervention programs. An elaboration on each of the nine dimensions is provided below with examples relating to the local context:
1. **Technical performance**
The degree to which the tasks carried out by health workers and facilities meet the expectations of technical quality (comply with standards). Technical performance refers to the skills, capability, and actual performance of health providers, managers, and support staff.

**Example**
- Counselling and testing of pregnant woman attending ANC clinic and providing correct PMTCT intervention

2. **Effectiveness of care**
The degree to which desired results (outcomes) of care are achieved through appropriate diagnosis and treatment.

The quality of health services depends on the effectiveness of service delivery norms and clinical guidelines. The question which needs to be asked is: Does the procedure or treatment, when correctly applied, lead to the desired results?

**Example**
- Reduction of episode of pneumonia in an HIV exposed infant following cotrimoxazole prophylaxis
- A child with persistent fever after initial anti malaria treatment has a blood smear to confirm a continued presence of malaria parasites

*Figure 1.3.1 Effectiveness*

**Trying to Answer all the calls**

![Image of a person trying to answer many phones](image)

*What will happen next!!*

Figure 1.3.1 relates to the effectiveness of communication. The effectiveness of communication can be questioned since the person will not be in a position to hear any of the calls or cannot send the correct message to the other end.
3. Efficiency of service delivery
Efficiency refers to the use of minimum resources to achieve desired results. It is an important dimension of quality because it affects product and service affordability and because health care resources are usually limited. Provide optimal rather than maximum care to the patient and community, they provide the greatest benefit within the resources available.

Poor care resulting from ineffective norms or incorrect delivery should be minimized or eliminated. In this way, quality can be improved while reducing costs. Harmful care, besides causing unnecessary risk and patient discomfort, is often expensive and time-consuming to correct. It would be misleading, however, to imply that quality improvements never require additional resources. But by analyzing efficiency, health facility supervisors may select the most cost-effective intervention.

Example
• Providing HIV services for mother and child at RCH instead of referring to CTC
• Organize records for easy retrieval, use and re-filing

*Figure 1.3.2 Efficiency*

Figure 1.3.2 tells us something about in-effectiveness by the way the room is organized. The files are poorly arranged and therefore the service provider will need more time then necessary to retrieve files and the possibility of misplacing or loosing files increases.
Figure 1.3.3 Efficiency

Figure 1.3.3 shows the proper way on how to file patient records. The files are properly arranged so the service provider will need less time to retrieve files and it will be less likely that files will be misplaced or get lost.

4. **Safety**

Safety means minimizing the risks of injury, infection, harmful side effects, or other dangers related to service delivery. Safety involves the provider as well as the patient.

**Example**

- Wear Personal Protective Equipment (PPE) including gloves, masks, gowns, boots, caps, goggles and aprons
- Safe disposal of infectious material to protect those who handle them and prevent injury or spread to the community as well as appropriate handling and disposal of sharps e.g. needles and surgical instruments

*Figure 1.3.4 Safety*
Figure 1.3.4 shows an unsafe way of disposing sharps. Using a safety box to dispose of sharps is the proper practice, but the boxes should be emptied when they are ¾ full and they should never hang, but be placed on the floor.

5. **Access to services**
The degree to which healthcare services are accessible, not restricted by geographic, economic, social, organization or linguistic barriers.

*Geographic access* may be measured by modes of transportation, distance, travel time, and any other physical barriers that could keep the client from receiving care.

*Economic access* refers to the affordability of products and services for clients.

*Social or cultural access* relates to service acceptability within the context of the client’s cultural values, beliefs, and attitudes. For example, family planning services may not be accepted if they are offered in a way that is inconsistent with the local culture.

*Organizational access* refers to the extent to which services are conveniently organized for prospective clients, and encompasses issues such as clinic hours and appointment systems, waiting time, and the mode of service delivery. For example, the lack of evening clinics may reduce organizational access for day labourers.

*Linguistic access* means that the services are available in the local language or a dialect in which the client is fluent.

**Example**
- The hospital ward has ramps for persons in wheelchairs to enter
- The faith-based health facilities provide services to the entire population regardless of religious affiliation

*Figure 1.3.5 Access*

Figure 1.3.5 above shows that the client does not have reliable means of transport to access the health facility. In situations where people in the community do not have access to health facilities, serious consequences might occur including death.
6. **Interpersonal relations**
Interpersonal relations are enhanced when confidentiality, trust, respect, responsiveness, empathy, effective communication between providers and clients are observed.

**Example**
- A health worker is not judgmental when speaking with a patient about his or her illness
- “… when I entered the doctor’s room he was in a bad mood and did not explain anything to me. I left confused…” (quote from a patient)

*Figure 1.3.6 Interpersonal relations*

Figure 1.3.6 presents an interpersonal relation between a health worker and her clients. There is verbal and non-verbal communication between the health worker and the clients. The clients look at ease and satisfied.

7. **Continuity of services**
The continuity of services should ensure uninterrupted and consistent services provided to the population/community.

Continuity means that clients receive the complete range of health services that he or she needs, without interruption or unnecessary repetition of diagnosis or treatment. Services must be offered on an ongoing basis. Clients must have access to routine and preventive care provided by a health worker who knows his or her medical history. Clients must also have access to timely referral for specialized services and to complete follow-up care.

Continuity is sometimes achieved by ensuring that the clients always see the same primary care provider; in other situations, it is achieved by keeping accurate medical records so that a new provider knows the patient’s history and can build upon and complement the diagnosis and treatment of previous providers.
The absence of continuity can compromise effectiveness, decrease efficiency, and reduce the quality of interpersonal relations.

Example
- Availability of supplies and trained staff
- Functional referral and record keeping systems
- Functional social supporting networks

8. Physical infrastructure and comfort
The physical infrastructure and comfort of the facility in relation to physical appearances, provision of privacy, and other aspects important to clients.

Physical infrastructure and comfort refer to the features of health services that do not directly relate to clinical effectiveness but may enhance the client’s satisfaction and willingness to return to the facility for subsequent health care needs. Physical infrastructure is also important because they may affect the client’s expectations about and confidence in other aspects of the service or product.

Physical infrastructure and comfort may include features that make the wait more pleasant such as music, educational or recreational videos, and reading materials. While some physical infrastructure and comfort -- clean, accessible restrooms; and privacy curtains in examination rooms -- are considered luxuries in some health care settings, they are nevertheless important for attracting and retaining clients and for ensuring continuity and coverage.

Example
- **The physical appearance of the facility**
  - Clean and well ventilated building
  - Availability of toilets according to guidelines
  - Infrastructure in favour for disabled persons
- **Provision for privacy during consultation**
  - Adequate rooms and screens
- **Other aspects**
  - Reading material and TV in waiting area
  - Benches/chairs provided in waiting and consultation rooms
Figure 1.3.7 Physical infrastructure and comfort

Figure 1.3.7 shows the environment of a health facility in Tanzania whereby the following things can be observed with relation to physical infrastructure and comfort:
• The resting benches are shaded for patients and visitors.
• Short grass, trees are green and clean environment.
• Paved and roofed corridor connecting buildings (good shelter).

9. Choice of services
The client can decide which facility to attend, time to seek health care and treatment plan.

Example
• Having options to run HIV and AIDS care and treatment services on weekends.
• Family planning; provide different choices on contraceptive methods (long and short term).
• Clinician can choose from a range of effective antibiotics to treat a respiratory infection.

Activity
Read Mrs. Kwangu case study on page 92 and answer the following 2 questions in your group.
1. Do you think that Mrs. Kwangu’s case study has reflected the dimensions that we have discussed? If yes, mention the dimensions and explain how they are reflected.
2. What is your opinion about the quality of care provided to Mrs. Kwangu?
Unit 2: QI and its principles

Unit objectives
By the end of this unit, you will be able to:
• QI definitions
• Describe principles of QI
• Apply principles of QI at health care settings

Session 2.1 QI definition

Session objective
By the end of this unit, you will be able to:
• Define QI

Introduction
QI is “a systematic process of assessing performance of a health system and its services, identifying gaps and causes, and introducing measures to improve quality and monitoring the impact”. QI is about using what is already known (scientific evidence) and innovations to transform how healthcare is delivered in the local settings for better health outcomes. For example, improving quality of newborn care in practical terms means a newborn with asphyxia has access to and receives prompt resuscitation that meets standards demonstrated to increase the infant’s chance of survival. It is the process of intentionally making care better (effectiveness, efficiency), with the ultimate goal of improving the outcomes for healthcare clients.

QI principles and tools provide an opportunity for continuously improving the quality of care by improving processes of care within local settings while ensuring needs of all clients are met and standards are adhered.

The essence of QI is:
• Systematic assessment of quality by using data to measure current performance comparing with expected standards and identifying quality gaps and opportunity for improvement
• Designing and testing changes that will lead to improvement
• Monitoring the effect of the change by measuring performance to determine if there is improvement
• Using the feedback from the data and its analysis to improve processes to provide better quality services.

Key elements in QI in health service organisations include:
• Build organisational commitment to quality
• Focus on the client/service user
• Find ways to measure quality
• Involving health care workers in the processes of improving quality
• Identify defects in quality and trace them to their source
• Work closely with referral agencies and other suppliers
• Design service processes with simplicity and client focus in mind
• Improve coordination and collaboration between different functions in the organisation

**Principles of QI**
There are five principles of QI:
• Focus on client’s needs and expectations
• Focus on communication and feedback
• Teamwork
• Measurements (data)
• Focus on Systems and Processes

**Session 2.2: Principles of QI: Focus on client needs, expectations, communication and gaining feedback**

**Session objectives**
*By the end of this session, you will be able to:*
• Define: client, needs and expectation
• Explain the importance of meeting the needs and expectations of the client
• Define communication and feedback
• Explain the levels of communication
• Describe importance of effective communication

**Introduction**
Health services exist to meet the health needs and expectation of clients, so the delivery of health services should be designed to meet those needs and expectations. In quality improvement, a focus on the client examines how and whether each step in a process is relevant to meeting client needs and expectations thus and eliminates steps that do not ultimately lead to client satisfaction or desired client outcomes. This focus on the client can be achieved by gathering information about clients and then designing services to cater to the needs and expectations that are expressed.

**2.2.1 FOCUSING ON CLIENTS NEEDS AND EXPECTATIONS**

**Defining a client**
In health care services, a client is defined as a person or organization using the services of a professional or professional organization. For health services, there are two categories of clients: external and internal.

• External clients are individuals that come into the health facility to receive the services for example patients and their family and the community served by the health facility
• Internal clients are organization members or individuals involved in the process of health service delivery for examples doctors, nurses, administrative personnel and cleaning personnel.

**Clients’ needs and expectations**
The two types of client may have different needs and expectations in the process of health care delivery which influences their perceptions the quality of health service delivery.
**Needs**
Needs are the actual necessities or goals that the client want to be met by utilizing the health services. For example the needs of external clients, patients family members and community) are to get services that will effectively relieve symptoms and prevent illness. While that of internal client is availability of facilities, supplies and working gears for service provision in accordance to stipulated standards of care as well as best practices.

**Expectations**
Expectations are the preconceived outcome or process that the client has in mind before the actual service delivery. As was the case on needs, the expectations on the quality of health services are different for the two categories of clients. While the internal client: health care provider, health facility management etc expects availability of logistics and supportive supervision, career development and acceptable remuneration, the internal client expects availability of healthcare providers at all times, good interaction with service providers and affordability of the services. The community as internal clients expects the availability of providers to provide services as when needed.

*Figure 2.1.1 Levels of client in health services an example of their different needs*

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**Group activity: Based on Mrs. Kwangu case study**
Based on the story, answer the following questions:
- Who are possible clients in this story
- What are needs of at least two clients
- What are expectations of at least two clients
Importance of meeting external clients’ needs and expectations

In the delivery of quality health services, the purpose of a health care organization to focus on clients’ needs and expectations as to achieve client satisfactions. A satisfied client tends to:
- Comply and adhere to treatment
- Return to the health facility for additional care
- Recommend the services to others
- Support the process of resource generation that goes toward meeting the cost of health services

Activity: Figure 2.1.2 shows external clients expression on possible levels of satisfaction during their last health care seeking visit to a health facility. What is your own opinion in relation to your experience during the last health care seeking visit to a health facility?

Figure 2.1.2 Perspective levels of satisfaction by clients

![Perspective levels of satisfaction by clients](image)

What was your level of satisfaction in the service you received last time you visited MoHSW headquarter?

Client satisfaction does not apply only in healthcare settings but in all other service delivery scenarios as well. In either case clients will access service when their expectations are met.
2.2.2 FOCUS ON COMMUNICATION AND FEEDBACK

Introduction
As a QI strategy, a better focus on client can be achieved by gathering information about clients and then designing services to cater to the needs that are discovered. This requires establishing effective communication between client and the health facility.

Effective interpersonal communication (IPC) between health care provider and patient is an important element for improving patient satisfaction, treatment compliance, and health outcomes. Patients who understand the nature of their illness and its treatment and believe the provider is concerned about their well-being show greater satisfaction with the care received and are more likely to comply with treatment regimens. Several studies conducted in developed countries show strong positive health outcomes and improved quality of care associated with effective communication. Provider-patient communication has been linked to patient satisfaction, recall of information, compliance with therapeutic regimens, and appointment keeping [1, 2]

Communication defined
Communication is defined as a process by which people share ideas, experience, knowledge, and feelings through transmission of symbolic messages verbally or non-verbally. Verbal communications involve use of words either spoken or written while in non verbal communication no words are used but other forms such as body language.
Levels of communication
In health service delivery, communication occurs at different levels and between different clients. For example:
- Between clients and family / friends
- Clients and spiritual leaders
- Client and service provider
- Health system and community
- Providers and health facility management
- Between providers within the health care system

Effective communication
Effective communication involves the ability to build a relationship of trust, understanding and empathy showing sensitivity and responsiveness at each level of communication. Practicing good communication skills including understanding of communication barriers is key and essential requirement where it is intended to involve the client to identify service quality gaps. For effective communication, the following principles should be observed:

- Listening attentively to the person speaking or client:
  - Keeping eye contact that is culturally acceptable
  - Not interrupting the speaker/client when he/she is talking
  - Assuring that no one will talk to you during the discussion with the client/speaker unless the client's permission has been obtained
  - Avoiding looking at your watch or moving pieces of paper or silently showing you are in a hurry
- Establish a two way communication
  - Encourage use of open ended questions
  - Paraphrasing the sentence to encourage the other to join in the communication
  - Show the client that you care
  - Show empathy
  - Respect and dignity of the client
  - Assure secrecy and confidentiality
- Affirm and acknowledge results
  - Accept clients point of view
  - Present yourself as expected of a professional

Communication barriers
Ineffective communication occurs when obstacles or barriers are present. These barriers are classified as physiological, physical, or psychosocial. Physiological barriers result from some kind of sensory dysfunction on the part of either the sender or the receiver for example hearing impairments and speech defects. Physical barriers consist of elements in the environment such as noise that contributes to the development of physiological barriers such as the inability to hear.

Psychosocial barriers are usually the result of one’s inaccurate perception of self or others; the presence of some defense mechanism or the existence of factors such as use of language that the client cannot understand, use of inappropriate channel for communication or the message content not being clear. In
summary, the most common barriers for communication in a healthcare setting can be caused by

- Using a language that is not understandable to the client for example speaking to a patient in English instead of Swahili or using technical medical terms instead of simpler ones
- Using inappropriate channel to convey the message. For example, using television to deliver a public health information while it is known that majority of households do not own television sets
- Delivering a message that is not clear, is ambiguous, or not applying to the situation on the ground

It is very important to be aware of these barriers in health care service delivery as their presence can severely affect quality of service and client satisfaction.

**GAINING CLIENTS’ FEEDBACK**

Feedback is information given in response to a product, service or person’s performance of a task or delivery of a service. Client feedback can be obtained through one or combination of the following channels:

- Use of questionnaires asking opinions about the service provided
- Carrying out interviews for selected clients for example exit interviews
- Carrying out focus group discussion with select group of clients
- Holding regular meeting with clients/community to discuss on their opinions about service delivery

Feedback as an important component of communication in health care setting as it opens channels for clients to express opinion on the service provided as well service quality gaps and suggestions on improvement. It is important to take the following into consideration.

- Providing feedback is important to fostering communication with clients and working towards ensuring clients’ satisfaction.
- After obtaining clients feedback the health facility need to work on them, by devising improvement plans to address the clients’ suggestions.
- Informing the clients on what action will be taken in response to the feedback provided
Session 2.3: Principles of QI: Focus on team work

Session objectives
By the end of this session, you will be able to:
- Define concepts: team, work and team work
- Describe stages of team formation
- Explain the characteristics of an effective team

Introduction
Team work is one of the principles of QI in health care services. When people work in teams, they are able to combine their talents, skills and efforts to accomplish results that individually they would not be able to do. Team work is like fuel which enables common people to achieve uncommon results. In the context of healthcare, the results are related to improving quality of health services.

Team and team work
A team is a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact entity working together to achieve a common goal for which they share responsibility [1].

Team work is work performed by a team by:
- Implying to solve problems together, whereby members of the team bring in their different skills and knowledge to tackle a common problem. Members of a team have the ability to influence decisions and effectively apply their strengths
- The interaction or relationship of two or more health professionals who work interdependently to provide care for patients. Teamwork means members of the team are mutually dependent; see themselves as working collaboratively for patient-centered care; benefit from working collaboratively to provide patient care

Team work is NOT:
- A group of people and one star who does all the work
- A group of people and a leader dictating what to do
Importance of team work in healthcare

In healthcare, team work has been defined as: “a dynamic process involving two or more healthcare professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care” [2].

Team work is increasingly advocated by healthcare policy makers as a means of assuring quality and safety in the delivery of services [3]. Teams are important in quality improvement of health care services processes for several reasons:

- While an individual might have knowledge gaps about a process, a group of people will likely have a more complete understanding. Each person in a team can share their understanding and perspective, building a complete picture of the process.
- Mutual support and cooperation is often created when people work together on a project. This feeling of good will often leads to an increased commitment to make improvements.
- Team accomplishments often lead to increased confidence among individuals. Competence and confidence create an upward spiral whereby competence builds confidence and confidence builds competence.
- A proposed solution will meet with much less resistance if the people who will be impacted by the change have contributed to the development of the solution.
Stages of Team development
There are five stages of team development:
1. Forming
2. Storming
3. Norming
4. Performing
5. Closing
The model of stages of team formation was first proposed by Bruce Tuckman in 1965 [4] who maintained that these stages or phases are all necessary and inevitable in order for the team to grow, to face up to challenges, to tackle problems, to find solutions, to plan work, and to deliver results.

Each stage has its own set of characteristics, but there may also be overlap among the phases. Teams that make it to the norming and performing stages have done so because the team members were willing to trust other members and care for them. Performing teams are also able to assess the team's effectiveness and make decisions on how to improve in the future – all autonomously. This is the most desirable state for a team to reach. The certainty of change in a team (whether it be objectives, members, or other) will almost inevitably cause the team to revert back to earlier steps. Long standing teams will periodically go through these cycles as changing circumstances require.

Stage 1: Forming
In the first phase, the forming of the team takes place. The team meets and learns about the opportunity, challenges, agrees on goals and begins to tackle the tasks.

- Members tend to cautiously explore acceptable group behavior and their roles starts changing from “individual” to “member”
- At this stage, members may challenge the authority of the leader or coach although they also tend to depend on them for orientation and direction. Mature team members begin to model appropriate behavior even at this early phase

The team leader need to handle the team dynamics appropriately and focus to bring the team members to begin to think themselves as part of the team working jointly to achieve a specific objective. This stage is complete when members begin to think of themselves as part of the team.

Stage 2: Storming
Every group will then enter the storming stage which is critical for group development. During this stage, the team addresses issues such as what problems they are really supposed to solve, how they will function independently together and what leadership model they will accept. Team members open out to each other and confront each other ideas and perspectives. In the storming stage:

- Tasks ahead may seem harder than expected
- Some team members may become impatient, argumentative and resist collaborations with some team members
- Individuals in the team have opportunity to establish their skills/knowledge specific role in the group
- The team forges ways of working together and respect each other point of view
This phase can become destructive to the team and will lower motivation if allowed to get out of control. Supervisors of the team during this phase should become more accessible and provide their guidance of decision-making and professional behavior.

This storming stage is complete when there is relatively clear hierarchy of leadership within the group and the team has forged ways of working together for a common objective while respecting individual member’s point of view.

**Stage 3: Norming**

At this stage team members adjust their behavior to each other as they develop work habits that make teamwork effective.

- Team members accept their team and realize their common goals as well as their roles and individuality of fellow members. In respective to the shared objective, members start to agreeing on rules, values, professional behavior, shared methods, working tools and even taboos
- During this phase, conflicts are minimal and there is more cooperation between members. Motivation increases as the team gets more acquainted with the improvement objective and as a result there are fewer conflicts and more cooperation between members

This stage is complete when the group structure becomes established and the team develops a shared understanding of how the teams should behave during the implementation of activities planned for achieving shared objective.

Leaders of the team during this phase should be more participative than in the earlier stages. The team members can be expected to take more responsibility for making decisions and for their professional behavior.

**Stage 4: Performing**

Some teams will reach the performing stage. Such teams are able to function as a unit as they find ways to get the job done smoothly and effectively without inappropriate conflict or the need for external supervision. At this stage:

- The team starts to identify problems, propose solutions, prioritize and implement changes
- Members accept each others competencies, roles, strengths and weaknesses and are able to handle the decision-making process without supervision
- The team performs at its best

Supervisors of the team during this phase are almost always participative. The team will make most of the necessary decisions.

**Stage 5: Closing**

This stage is also known as adjourning or mourning. At this stage, the problem solving work or quality improvement activity which the team intended to achieve has already been accomplished. At this stage:

- The team must deal with either success or failure of their efforts and the dissolution of the team
- The team identifies lessons learned and plan on how these will be communicated
The leader and the team may celebrate their success and provide support if the objectives were not achieved. It is important to note that even the most high-performing teams will revert to earlier stages in certain circumstances. Many long-standing teams will go through these cycles many times as they react to changing circumstances. For example, a change in leadership may cause the team to revert to storming as the new members challenge the existing norms and dynamics of the team.

Effective teams
Teams work most effective when they have a clear purpose, good communication, co-ordination, protocols and procedures, and effective mechanisms to resolve conflict when it arises. The active participation of all members is another key feature.

Successful teams recognize the professional and personal contributions of all members, promote individual development and team interdependence, recognize the benefits of working together, and take accountability. In summary effective teams have established:

- Clear roles and responsibilities of each team member
- Awareness of each member’s need
- Appreciation and recognition of individual efforts and contribution
- Trusting team climate
- Effective communication among team members

QI team composition
The composition of a team depends on the task the team aims to accomplish as it will define the skills and competency mix required. Usually, healthcare is provided by a team of health professionals each with a particular competency and skills. Generally, a QI team in a health facility is composed of members from different units in the health facility who are directly or indirectly involved in the service provision. In the case of a QI team for HIV and AIDS care, the team members may come from different units for example:

- The management e.g. the in charge of the facility or representative
- The clinical teams e.g. care and treatment clinician, staff working in the reproductive and child health clinic including those working in labour ward and PMTCT
- Staff working in the pharmacy
- Staff working in the laboratory
- Facility’s data manager or data clerk

It is important to note that during the implementation of an improvement activity, the team may be expanded to include other staff whose skills are deemed necessary for accomplishment of the improvement.

Once a QI team is composed, it is necessary for the team to establish team hierarchy by appointing some of the team members to fill the following positions:

- Team leader who will be the overall coordinator of the team during implementation of improvement activity
- Team secretary/recorder responsible for organizing and scheduling team meetings as well as to recording proceedings team meetings and handling communication between members’ facility management and other stakeholders
Other specific roles can be identified for other team members as needs arise in consideration of the team’s objective.

*Figure 2.3.2* Illustration that a team achieves more than what an individual possibly can.

In the efforts to improve the quality of healthcare, working as a team can achieve more than when working individually as is may be suggested from figure 2.3.2 above.
Session 2.4: Principles of QI: Focus on measurements of quality in health care

Session objectives
By the end of this session, you will be able to:
- Explain the importance of measuring quality of care
- Explain the rationale for measurement of quality
- Explain the methods to measuring quality
- Define indicators and mention their characteristics

Introduction

Measuring quality of care
The process of collecting data/information on the aspect of care of interest and comparing with scientifically valid performance standards with the intention that unusual finding should stimulate efforts to understand and correct the quality gap.

Quality of care can be assessed at several levels, from the care provided by individual health care professionals (e.g. nurses or physicians) to the care provided by a health plan. It is worth noting that measuring healthcare quality is a complex and challenging process requiring precise determination and specification of useful measures.

In health service provision, measurement is done in order to:
- Compare current practice versus set standards or guidelines
- Identify quality gaps
- Measure whether a proposed change resulted into an improvement
- Raise awareness in the process of health care delivery among health workers
- Identify client needs and satisfaction of delivered service

Rationale for measuring quality
Measurement is critical to quality improvement initiatives because it provides information how the objective for improvement is being achieved. Comparing collected data on a particular process of care reveals the gap i.e. what should be improved, see figure 2.3.1. Measurements provide objective information that allows the development of new interventions and testing the changes, as well as monitoring progress after the change has been implemented.

Without measurement it would be impossible to determine if any improvements took place. Measurement can provide relevant information related to quality of care, for example:
- A decrease from 80% to 20% in loss to follow-up rates among patients on ART
- Increased enrolment from 15% to 75% of HIV+ pregnant women from RCH to CTC
- Improved ART adherence rates

Figure 2.3.1 Measurement allows identification of opportunities for improvement
In summary, the measurement of quality is useful to:
- Identify and analyze problems
- Verify possible causes of problems
- Show if a change resulted in an improvement
- Monitor change to ensure improvement is maintained over time
- Make decisions based upon fact, not opinion

**Methods of measuring quality**

Information from which conclusions can be drawn about the quality of care can be classified under three categories, namely:

- Structure
- Process
- Outcomes

The structure-process-outcome approach to quality measurement provide useful information needed for improving quality in most health care settings as structural elements make processes possible, and processes, in turn lead to outcomes. It is well known that good structure increases the likelihood of good process and good process increases the likelihood of a good outcome. It is necessary therefore to have an established relationship before any particular component of structure, process or outcome can be used to measure quality. Before quality measurement is undertaken, there must be pre-existing scientific knowledge of the linkage between structure and process, and between process and outcome. Each of these categories is described below:

**Structure**

Structure denotes the attributes of the settings in which care occurs. Structure can be divided into:

i. **Inputs** which include attributes of human resources (such as the number and qualifications of health workers) and material resources (such as facilities' infrastructure, computerized information system, equipment and financing) and  

Organizational systems i.e. how resources are arranged and managed (such as administrative policies, decision-making hierarchy, reimbursement mechanisms, referral systems and medical/nursing staff organization)

There are limitations to the use of structures of care as a quality measure because structures of care are less modifiable than processes of care. In deciding which specific structural features to include in quality measurement, it is important to focus on factors that are amenable to change and that affect processes (and thus outcomes).

**Process**
Process denotes what is actually done in giving and receiving care in an established routine. It includes patient’s activities in seeking care as well as practitioner’s activities in making a diagnosis and recommending or implementing treatment. Measurement of processes should examine specific actions in the delivery of care and provide timely information about activities that can be changed to improve outcomes. Once a process or processes that lead to better health outcomes is established, maintenance of higher level of performance for the particular process or processes is important in order to avoid poor outcomes.

Many processes of care are specific to a condition or procedure, however; in practice multiple processes are likely to interact to influence outcome and quality. This is also true for HIV and AIDS which has several multifaceted interventions with multiple processes.

An example of a process in HIV/AIDS care is the process of testing a client for HIV which involves: pre-test counselling, drawing blood, performing the test using test reagents and equipment, giving test results to the client and post test counselling.

Process data are usually more sensitive measures of quality than outcome data, because a poor outcome does not occur every time there is an error in the provision of care and that they tend to be frequent, immediate, controllable, and rarely confounded by other factors.

**Outcome**
Outcome denotes the effects of care (e.g. treatment) on health status of patients and populations. Outcomes can be intermediate markers of disease progression (such as clinical improvement among HIV patients receiving ARVs, increase in CD4 counts among HIV patients receiving ART) or end results of effects of care (such as mortality, morbidity, functional status, quality of life and patient satisfaction).

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**Conducting measurement**

The process involves:

1. Defining the objective for measurement. This requires Quality Improvement teams (QI teams) to understand how measurement to be carried out can assist in identifying quality gaps in service delivery.

2. Development of operational definitions to describe what to measure and the specific steps needed to consistently measure what has been agreed upon.

3. Develop data collection plan. A data collection plan clarifies how often data will be collected and reported (weekly, monthly, quarterly etc) and the period of time (collection interval), the sources of data (data sheets/records, databases surveys, focus group discussions or some combination of these methods?) and person(s) responsible for collection of data. A data collection plan also clarifies whether there will be sampling of data or all available data will be collected for measurement. A well-developed data collection plan saves time, effort and money and makes it possible to use it for making sound improvements.

4. Collect data

5. Data analysis. Data can be used to create information, but data are not information in itself\(^8\). Data has to be processed and analyzed so that it communicates a useful meaning to those involved in operations and management of the hospital\(^9\).

6. Data display. Data collected for measuring quality may be analyzed and presented in the following patterns:
   - Plot data over time
   - Plot data showing a distribution
   - Plot data showing relationships
   - Plot data as locations
   - Plot data showing multiple measures

   The visual display of data of used for QI in health care settings is shown by the run chart, whereby data is plotted over time. An example of a run chart is shown in figure 2.4.2.

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\(^{8}\) Lloyd RC. Helping leaders blink correctly: Part II. Institute of Health Care improvement 2010

\(^{9}\) Austin CJ. Information Systems for Hospital Administration. Health Administration Press, 1983
Figure 2.4.2 Proportion of exposed children under 18 months receiving daily cotrimoxazole prophylaxis each month

Sources of data for measuring quality

Obtaining data for measuring quality can be difficult and expensive, and errors can occur at several levels. Appropriate source of data for quality measurement depends on the purpose for which the information will be used, however, no single source of data is sufficient to provide enough information for measuring quality.

In general, sources of data for measuring quality include:

- Review of records and databases (such as CTC 2 cards, ART and Pre-ART registers, CTC2 database etc)
- Surveys (e.g. clients’ opinion survey on quality of care provided, level of satisfaction etc)
- Direct observations e.g. provider/client interactions
- Interviews

Challenges in data quality and availability

- Administrative sources of data such as medical records lack important clinical elements and can be inaccurate with respect to the principal diagnosis for which a patient was treated.
- Routinely collected data such as registers and patients records is usually collected for purposes other than measurement of quality of care
- Recording of data in registers and patient records by healthcare providers may be incomplete and or inaccurate
- Some data elements necessary to measure quality of care may not be available due to burden of data collection;
- Technology barriers to data collection
Legal and/or technical barriers to sharing data among multiple clinicians

It follows that patients’ records and database management are key components of measuring and improving the quality of care provided to chronic conditions like HIV which require continuity of data collection throughout the program.

INDICATORS

Introduction
Measuring quality requires the development and application of performance measures or indicators against which to make judgement on the level of quality. Since indicators are based on agreed definitions and are evidence-based, they provide a quantitative basis for healthcare providers, organizations, and planners to achieve improvement in care and the processes by which patient care is provided. Furthermore, indicators help the health sector to define and measure progress towards set goals.

Indicators have been defined in several different ways:
- As measures that assess a particular health care process or outcome
- As quantitative measures that can be used to monitor and evaluate the quality of important governance, management, clinical, and support functions that affect patient outcomes
- As measurement tools, screens, or flags that are used as guides to monitor, evaluate, and improve the quality of patient care, clinical support services, and organizational function that affect patient outcomes

Indicator measurement and monitoring serve many purposes, they make it possible to: document the quality of care; make comparisons (benchmarking) over time between places (e.g. hospitals); make judgments and set priorities (e.g. choosing a hospital or surgery, or organizing medical care); support accountability, regulation, and accreditation; support quality improvement; and support patient choice of providers. The use of indicators enables professionals and organizations to monitor and evaluate what happens to patients as a consequence of how well professionals and organizational systems function to provide for the needs of patients.

Indicators for performance and outcome measurement allow the quality of care and services to be measured however, measuring quality requires many different measures because quality is multidimensional as described in session 1.3. This assessment can be done by creating quality indicators that describe the performance that should occur for a particular type of patient or the related health outcomes, and then evaluating whether patients’ care is consistent with the indicators based on evidence-based standards of care. Indicators are, however, not a direct measure of quality.
Characteristics of indicators

An indicator should have the following key characteristics:

**Specific** means the indicator measures what it is intended to measure with highest degree of accuracy/precision

**Measurable** means the indicator can be quantified/assessed using appropriate measurement scales

**Achievable** implies feasibility/attainability of a particular issue that the indicator is targeting

**Realistic** means practicability/rationality of the issue which the indicator is addressing

**Time bound** implies that the indicator has a specified time to be realized

Components of indicators

**Numerator** the part of a common fraction appearing above the line, representing the number of parts of the whole that are being considered

**Denominator** the number below the line in a simple fraction, which indicates the number of parts making up the whole

**Time period** over which the event or outcome of interest occurs

Any changes in the definition/specification of the numerator or denominator will change the indicator. In order to draw valid conclusions about trends in performance of an indicator it is important that the indicator definitions/specifications remain stable over time.

Examples of indicators

**Indicator:** proportion of men accompanying their partners to ANC per month

**Numerator:** number of men accompanying their partners to ANC in a given month

**Denominator:** total number of women attending ANC in the same month

**Indicator:** % of HIV patients from CTC receiving CD4 test once every 6 months

**Numerator:** number of HIV patients both in general care and on ART seen at the clinic in the past six months who had a CD4 test in a particular month

**Denominator:** Total number of HIV patients in general care and on ART seen at the clinic in the past 6 months

Exercise on indicators

Indicator: Proportion of pregnant women testing for HIV at RCH clinic every month

**Numerator:**

**Denominator:**

Indicator: Proportion of tuberculosis patients tested for HIV in a month

**Numerator:**

**Denominator:**
Types of indicators

Indicators can be related to structure, process, or outcome of health care.

Structural indicators
Structural indicators also referred to as input indicators, describe the type and amount of resources used by a health system or organization to deliver programs and services, and they relate to the presence or number of staff, clients, money, beds, supplies, and buildings. The assessment of structure is a judgement on whether care is being provided under conditions that are either conducive for provision of good care.

Examples of structural indicators include:
1. Proportion of clinical officers trained on Integrated management of adulthood illnesses (IMAI)
2. Proportion of health facilities providing specific technologies, for example X-ray services
3. Number of clinical guidelines revised every second year
4. Proportion of funds from the facility cost sharing account allocated for renovation per month

Process indicators
Process indicators assess what the provider did for the patient and how well it was done. Process indicators measure the activities and tasks in patient episodes of care. Some authors include the patient’s activities in seeking care and carrying it out in their definition of the health care process. Others limit this term to care that health care providers are giving. It may be argued that providers are not accountable for the patient’s activities and these, therefore, do not constitute part of the quality of care, but rather fall into the realm of patient characteristics and behaviour that influence patients’ health outcomes.

Examples of process indicators include:
1. Proportion of patients seen by a doctor at CTC within 4 hours
2. Proportion of TB case contacts that are traced and appropriately treated
3. Proportion of patients treated according to clinical guidelines
4. Proportion of HIV patients who undergo CD4 testing after every six months
5. Proportion of patients with diabetes given foot care during every visit

In order for a process indicator to be valid, it must previously have been demonstrated to produce a better outcome.

Outcome Indicators
Outcomes are states of health or events that follow care and that may be affected by health care. An ideal outcome indicator would capture the effect of care processes on the health and wellbeing of patients and populations.
Outcomes can be related to:
1. Disease: symptoms, physical signs, and laboratory abnormalities;
2. Discomfort: symptoms such as pain, nausea, or dyspnoea;
3. Disability: impaired ability connected to usual activities at home, work, or in recreation; and
4. Dissatisfaction: emotional reactions to disease and its care, such as sadness and anger.
5. Death

Examples of outcome indicators
Intermediate outcome
Intermediate outcomes include the short-term results of programs and services, and they may be used as proxy measures for true health outcomes. Intermediate outcomes can take many forms, for example, in health promotion programs: measures of change in knowledge (e.g. how HIV is transmitted), attitudes (e.g. toward condom use), and risk behavior (e.g. self-reported rates of condom use). Other examples of intermediate outcomes include:
1. Clinical improvement among HIV patients receiving ARVs
2. Increase in CD4 counts among HIV patients receiving ARVs
3. Improved ARVs adherence rates

End result
1. Mortality e.g. proportion of deaths resulting from motor vehicle accidents
2. Morbidity
3. Functional status e.g. proportion of persons with disabilities living independently
4. Patient satisfaction e.g. proportion of clients satisfied with tobacco cessation programs
Session 2.5: Principles of QI: Focus on systems and processes

Session objectives
By the end of this session, you will be able to:
- Define what is meant by a system and its components
- Explain the concept of “system”
- Explain the concept of “process”
- Differentiate between a process and a system
- Carry out process analysis and re-design the process

Introduction
QI in health care system views all services as systems and processes. Inefficiencies in providing health service is directly related to systems and processes, therefore it is essential for health care provider to understand systems and processes to be able to narrow quality gaps and improve services given to clients.

Figure 2.5.1: The respiratory system

Each system has its own processes that are often based upon the needs of the system. Processes can cause inefficiencies due to problems during execution or transition from one step to the other. For example, the patient flow process at RCH by which patient moves through health facility seeking and receiving health care is likely to be influenced negatively by other processes in the health system.
**Systems defined**

A system is a set of interacting and interdependent parts and processes. An example of a system is a sum of processes in the human body, the respiratory system which consist of nose, bronchi, lungs etc, another example of a computer system and its parts such as keyboard, CPU and screen, a healthcare facility, are all examples of different systems. Systems are arrangements of organization; people, material and procedure associated with a particular function or output, system can be small or large, simple or complex. Every system is perfectly designed to achieve exactly the results that need to be achieved. System can also be defined as sum of total of all elements that work together to produce a common goal or product.

Human beings have various body systems such as respiratory system, parts or processes of respiratory system are illustrated in the diagram.

A system is made up of the following components:

- **Input**
  Resources required to carry out a certain activity, e.g. buildings for service provision, qualified and skilled staff.

- **Process**
  Series of steps needed to perform a task or transform inputs into output e.g. investigation; drawing blood for CD4 count

- **Output**
  Product or services resulting from input and processes e.g. immunized clients
Why focus on systems and processes
In routine health care delivery system, many processes occur simultaneously involving many professional functions in the organization, all processes are directed in achieving one output from the system. In many cases quality problems are related to ineffective processes which are the root cause of most quality gaps. The majority of quality problems are in poorly designed processes and that improvement will depend on how we understand process analysis and process re-design. Hereunder are a few reasons why it is important to focus on systems and processes:

- In most situations processes, not people, are at the root of most quality problems
- Teams need to understand and be able to analyze processes to improve quality through which the services are provided
- Process must need to be changed (or added/reduced) to improve quality

Process Analysis
Process analysis refers to gaining deeper understanding of a potential problem in a series of steps in an activity to identify areas for narrowing quality gaps to improve quality of service such as registration procedures at RCH Clinic

Why process analysis
Inefficiency in a process always results in time wastage, unnecessary steps and extra work to a system, ultimately reducing quality of service. Process analysis is important for health care providers to

- Identify and understand problems and underlying causes in services delivery
- Process analysis provides clear framework for identifying part of the process that requires change
- Enables health providers to communicate to others how they managed to improve quality of services
Steps in process analysis

- Decide what process you want to work on, look for steps that are not clear and inefficient
  - List every step in the process to identify steps that are problematic or redundant
  - Identify who does what to identify steps that are unproductive
  - Identify where the action takes place
  - Determine if steps consist of sub steps for possibilities of integrating some services to reduce resource wastage
- Collect performance data on current situation (baseline data)
- Analyze the data and current process
- Describe the current process by using a process flow chart
- Identify weak or redundant steps

Figure 2.5.4 Example of a process analysis at RCH clinic by using a process flow chart

Through understanding of the process and system of care in illustrated process map, QI teams can identify weaknesses and change processes in a way that it produces better results.
Guide to process analysis
The process flow chart describes the current situation in a process of health delivery service to identify steps that are:

- Unclear and causing unnecessary client movement at health facility
- Inefficient step that can be reduced from a process
- Leaves room for error
- Unnecessary step that can be merged with other step to reduce client movement

Steps for improving processes include the following:

1. Identifying improvement areas
   - Steps where time could be used more efficiently for providing services to client.
   - Steps where two tasks could be accomplished in a single step or could be one parallel to narrow the quality gaps and improve services
   - Steps where a task could be shifted to a less qualified staff member
   - What is the longest step that can be part of quality problem, teams have to brainstorm why this process taking long for the client to get service

2. Identify possible changes to the process that can reduce the identified problems are generated and prioritized by team members. The following are examples of identified changes in the process of care at RCH:
   - CTC staff provides periodic health education at ANC in groups of 10
   - Health attendant accompanies HIV positive pregnant women to CTC
   - Opening hours laboratory extended till 2pm
   - Task shifting to less qualified staff members

3. The re-designed process of providing services will be implemented to see if it results into an improvement of the process of care at RCH
   - Use data to compare results from before and after testing the change idea (e.g. percentage of pregnant women who test positive for HIV that are successfully enrolled in CTC services) to see if sufficient improvement resulted
   - Decide if the identified change results into improvement and requires adaptation in the process of care at RCH
Figure 2.5.5 *Illustration of re-designed process analysis at RCH clinic by using a process flow chart*

**ACTIVITY**

In groups of 4/5 persons read the case study of Mrs. Kwangu and answer the following questions. Each group will be allocated one process to do a process analysis and redesign. You will have 20 minutes for this activity.

1. Draw a process flow chart to describe the process of care that Mrs. Kwangu received at:
   - Melela Health centre
   - Labour ward at Melela HC
   - District hospital
2. Identify weak or redundant steps in each case
3. Re-design the process flow chart to improve the process of care
4. Present the re-designed process flow chart to the class
Unit 3: QI model, approaches and implementation

Unit objectives
*By the end of this unit, you will be able to:*
- Describe the overview of the QI model and approaches
- Explain the application of the Plan Do Study Act cycle (PDSA) in the model to bring about change
- Describe the QI approaches
- Carry out a practicum on QI in a hospital setting

Part 1: QI model and approaches

Session 3.1.1: Steps in QI and the improvement model

Session objectives
*By the end of this session, you will be able to:*
- Describe the four steps of QI
- Apply the PDSA cycle in planning QI activities
- Use the improvement model in relation to the principles of QI to reduce quality gaps in HIV and AIDS services

The four steps in QI
The four steps of QI are:
- Identify: determine what needs to be improved
- Analyze: understand the problem
- Develop: hypothesize about what changes will improve the problem
- Test/implement: test the hypothesized solution to see if it results into improvement.

The three fundamental questions when combined with the Plan, Do, Study, Act cycle (PDSA cycle) form the basis of the model for improvement in health care setting. The three fundamental questions are:
1. What are we trying to accomplish?
2. What changes can we make that will result in an improvement?
3. How will we know that a change is an improvement?

The PDSA is a systemic way of implementing identified changes measuring the effects of changes and decide whether to abandon, modify or implement the change.
QI teams should be continuously looking for ways to further improve quality by using the model for improvement. Several cycles of the four steps may be needed to test the change before desired results are achieved. In addition teams can continue to strive for further improvements with the same problem and/or address other opportunities for improvement that have been identified.

**Step 1: Identify**
The goal of this step is to determine what to improve. This may involve a problem that needs a solution, an opportunity for improvement or a process or system that needs to be improved. Examples of problems in HIV and AIDS services are:
- Stock outs of ARV medicines and/or laboratory reagents
- Few clients have follow up CD4 tests done
- Few infants are initiated breastfeeding within the first hour of delivery

The important question in this step is to ask: What is the problem as regards to the perceived quality gap? In HIV and AIDS services and in other chronic conditions, QI efforts should geared towards addressing the following key quality frameworks:

1. **Access**
   - Those who are in need of service receive the appropriate services, e.g. all who receives HT services are enrolled into care and receive appropriate care
2. **Retention**
   - All those receiving the services for example ART services are retained, e.g. there very few are lost to follow up for those on ART
3. **Wellness**
   - All those receive service have better health outcomes, e.g. patient CD4 count raises, not ambulatory, can continue with routine work
In healthcare settings there are two main ways of identifying problems related to delivery of quality services within the QI framework: record review and seeking clients’ opinions.

Record review:
Use available data to help identify current gaps that need to be addressed for example:
- Use pre-ART register to determine if patients who are eligible for ART are being started on
- Use ART registers or ART database to check if patients are receiving CD4 count as scheduled, if patients who are supposed to return to clinic in a specified time frame are attending
- Examine pharmacy registers to see whether patients who were prescribed ART picked up
- Review indicators for QI that have been used elsewhere for example
  - Were patients assessed for active TB at last clinic encounter
  - Did HIV exposed infants receive daily cotrimoxazole after eight (8) weeks of birth
  - Did female patients between 15 - 49 years of age receive family planning counselling during their most recent clinic visit

Obtain ideas from clients (both internal and external) on areas which they think needs improvement. This can be done by encouraging regular meetings with staff and patient groups, holding focused group discussion, exit interviews as well as using suggestion boxes.

Step 2: Analyze
Analysis is to gain deeper understanding of the opportunity for improvement before considering changes. When analyzing a problem the key question to be considered is: “How do you know that it is a problem”? Once a problem or opportunity for improvement has been identified, the second step analyzes what must is known or understood before changes are considered. The objectives of the analysis step can be any combination of the following:
- Clarify why the process or system produces the effect that we aim to improve
- Measure the performance of the process or system that produces the effect
- Formulate research questions, such as:
  - 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?
- Learn about internal and external clients, such as their involvement in the process being analyzed and needs and opinions about the problem

Analysis requires use of existing or collection of additional data and drawing flow charts or process analysis diagrams.
- The existing or collected data can be used to measure the current level of performance and compare with the expected or set standards
- Performance measurements provide an objective way of understanding what is really happening, as opposed to assumptions
During measurements, it is important to have a clear and specific measure with defined time period. To be able to better visualize the information provided by the collected data, it is important to graphically plot the data for example run charts that can also show the trend.

Performance data usually shows gaps in quality but does not explain why the gaps exist. The information on why the gaps exist is obtained by having a clear understanding process of care. This can be achieved by developing a flow chart of the existing process and making a team review about the potential barriers of the process to the performance.

**Step 3: Develop**
This step uses information gathered from the previous steps to explore and propose changes might improve the existing problem. It is crucial to remember that at this point the proposed changes remains theoretical as they have not yet been tested. There are four approaches can be used to come out with possible changes:

- **Individual problem solving approach** where individuals develop specific minor changes in the system. These small changes effect few people and require less planning and time. This method generally does not require teams or outside experts for the development of hypotheses for improvements
- **Rapid Team Problem Solving** which involves the development of a series of small changes to be sequentially tested and possibly implemented
- **Systematic Team Problem Solving** which develops solutions directed towards the root cause of a problem and therefore these changes are generally large
- **Process Improvement** which involves the permanent monitoring and improvement of a key process and therefore encounters a variety of improvement needs over-time

The rapid team problem solving approach is preferable for QI teams as it allows the team to test a series of small changes sequentially thus being able to measure the effect of the change on improving the quality gap.

Changes may affect different processes and impact a lot of people, so they require planning before implementation. Although the change may result in improved quality, health workers may often feel apprehensive about change and resist it, especially if they did not participate in developing the change. Therefore, it requires time for organizational members to grow accustomed to the new ideas and learn the new methods. Resistance to change can be prevented through group participation and time for adjustment.

**Step 4: Test and implementation**
Test and implementation is the PDSA cycle in the model for improvement. During this step it is important to note that not every change will result into an improvement. The improvement team should test the proposed change and measure performance over a period of time to see if it results into improvement. The PDSA cycle of “measure – test – identify change – re-measure” forms a fundamental part of improvement work.

The data collected during the implementation of test changes can be plotted as “results versus time” in a run chart (see figure 2.3.2) to enable the QI team better
visualize the results and trends and compare with the similar charts obtained during the ‘measure’ phase, during problem analysis stage.

Once the change has been demonstrated to result into improvement the change can be institutionalized into routine healthcare delivery processes. It is important to emphasize that a variety of changes may be tested before an improvement is observed. The quality improvement teams are encouraged to start implementing the changes in a small scale, learn the impact before expanding.

**Standard Evaluation System (SES)**
The SES will be used for systematically documenting proposed changes and monitoring the results based on the PDSA cycle. The tool exists of the following components:
4. Improvement objective
5. Indicator
6. Problem description
7. Process analysis
8. Tested changes
9. Run chart

The following matrix is used to fill in the identified changes during the process analysis. There could be more than one change to be tested per each improvement area. Important to know that not every change is an improvement and it is important to determine if change(s) are producing desired improvements through continuous measurement.

**The Matrix for Processing Identified Problem**

<table>
<thead>
<tr>
<th>Tested changes (include 1-2 sentences to briefly describe the changes)</th>
<th>Planned Started Date</th>
<th>End date if applicable</th>
<th>Responsible Person</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>


Example of a filled matrix for case study of Melela Health Centre

<table>
<thead>
<tr>
<th>Tested changes (include 1-2 sentences to briefly describe the changes)</th>
<th>Planned Started Date</th>
<th>End date if applicable</th>
<th>Responsible Person</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>•To increase the number of HIV positive pregnant women receiving CD4 count service.</td>
<td>1/4/2010</td>
<td>30/6/2010</td>
<td>CTC i/c and Laboratory technologist</td>
<td>•Daily review of records to be done</td>
</tr>
<tr>
<td>•To increase number of HIV + PW who return to DH or Facility receive the CD4 count test result for initiation of ART.</td>
<td>1/4/2010</td>
<td>30/9/2010</td>
<td>DACC/CTC i/c Laboratory technologist</td>
<td>•Daily review of records to be done</td>
</tr>
</tbody>
</table>

A hypothetical example of the application of the model of improvement based on Mrs. Kwangu case study

This hypothetical example is based on the case study of Mrs. Kwangu (Annex 1). It elaborates how the four steps of QI and PDSA cycle can be applied to improve the quality of care. The process of evaluating eligibility of a HIV+ pregnant mother before initiation of ARV drugs requires the mother to undergo for CD4 count testing is taken as an example.

The current process of service delivery at this health center can be summarized as follows:
- Currently Melela Health Centre does not have a CD4 machine, pregnant mothers counselled and tested for HIV at the Reproductive and Child Health (RCH) clinic and found to be HIV+ are referred to the district hospital for CD4 testing without giving a referral note sometimes without
- The RCH nurse sometimes documents the HIV status of the tested mother and sometimes does not
- On arrival at the district hospital, those without referral note have to queue for registration at District Hospital
- After registration, they have to queue again to see the clinician who afterwards refers the patient to the laboratory
- If a patient arrives at laboratory for CD4 testing after 12.00 pm or after 30 samples have been drawn, the patient is asked to come back on the next day as the laboratory will not take more CD4 samples for testing

Step 1: Identify the problem:
- Problem is that HIV+ pregnant women are not getting CD4 count tested
- What are we trying to accomplish? To increase the number of HIV positive pregnant women receiving CD4 count service

Step 2: Analyze the problem:
The analysis:
- At Melela Health Center:
  - Patient referral system not available and/or not functioning
  - Long distance to the district hospital
Recording and documentation system not followed

- At District Hospital
  - Client flow system not well structured
  - Limited time and number for samples of CD4 count per day

How will we know that a change is an improvement?
- If number of HIV+ pregnant women with known CD4 count results goes up

**Step 3: Develop:**
Propose changes to the current process which will increase the number of HIV+ pregnant women receiving CD4 count services by asking the question. What changes can we make that will result in an improvement?

Based on analysis done in step 2
**At Melela Health Center (MHC)**
- Introduce direct referral slips to the district hospital laboratory to be filled in at MHC when referring HIV+ pregnant women to the laboratory
- Assign MCH nurse to make a weekly review of all referrals to check if the slips were filled
- Document all referral feedback slips from clients during their next appointment to MHC

**Step 4 Test and implement (PDSA cycle)**
- Apply the agreed changes: test, implement and monitor if they produce the intended results (increase the number of HIV+ pregnant women receiving CD4 count service)

1st PDSA cycle
**Plan**
- MHC will send patients to District Hospital with direct referral to laboratory so patients can get sample taken before noon
- MHC staff will track number of HIV+ Pregnant Women (HIV+ PW) getting CD4 count done
Do
- MHC in-charge discussed this approach with DMO, Hospital Management, MO i/c and district laboratory technologist and agree that HIV+ pregnant women from MHC goes direct to lab for CD4 count

Study
- The number of HIV+ pregnant women from the MHC getting CD4 count done increased from 10% per month (before change) to 24% per month (after change)
- Still some HIV+ pregnant women referred from MHC to the district laboratory could not do the test on the day of referral. These were asked to come back the next day

Act
- Decided to maintain the referral system
- Try more changes in 2nd PDSA cycle

2nd PDSA cycle

Plan
- Involve District Laboratory technician in discussion to increase the number of sample taken per day from thirty (30) to sixty (60) i.e. two batches of 30 samples per day and to increase opening hours of the laboratory from morning till afternoon 3.00 pm

Do
- MHC incharge discusses the suggested changes with DMO, Hospital Management, MO incharge District Laboratory technologist
- Agreed
  - That the laboratory will run 2 batches of CD4 count (up to 60 samples) a day
  - Order additional reagents and supplies
  - Opening hours more flexible to 3.00 pm

Study
- The number of HIV+ pregnant mothers from the MHC getting CD4 count done increased from 24% to 42%
- But some HIV+ pregnant mothers are still not going to the district hospital for the test as they cannot afford bus fare

Act
- Decide to keep on doing direct referral and 2 batches of 30 samples, but will try more changes in 3rd cycle

3rd PDSA cycle

Plan
- MHC laboratory will draw samples for CD4 count once a week and send to district hospital laboratory for testing
- After testing, the results taken back from the district hospital to MHC
- From the results of the test, identify which HIV+ pregnant women are eligible for ART and needs referral to District hospital for treatment as MHC does not provide Care and Treatment

Do
- MHC in-charge discussed with the DMO, district laboratory technologist, Hospital Management and agreed with suggested changes on sampling arrangement
- MHC in-charge took the collected CD4 samples to the district hospital during the scheduled weekly meeting with CHMTs and also collected back the result of last week’s samples sent to the laboratory
• MHC clinicians identified HIV+ pregnant mothers who were eligible for ART

**Study**
• The number HIV+ pregnant women getting CD4 counts increases from 42% to 80%
• But only small number of HIV+ pregnant women eligible for ART (according to CD4 count) was not going to district hospital for treatment. Thus a new problem was identified

**Act**
• Continue with CD4 sample referral system
• But now work on improving the number of HIV+ pregnant women actually going to district hospital for treatment

**Next steps**
• Share successes in the increased number of HIV+ pregnant women getting CD4 count
• Share successes of increased capacity of District Hospital laboratory in performing CD4 count
• Consider PDSA cycle to address the new identified problem (small number of identified HIV+ pregnant women eligible for ART are attend for treatment at the district hospital
• After each cycle the QI team shares the results of the tested change to determine the level of improvement attained
Session 3.1.2: QI approach: Five S and improvement collaborative

Session objectives
By the end of this session, you will be able to:
• Identify QI approaches used in health care setting in Tanzania
• Describe the steps for each of the Five S (5S) components
• Mention the importance of 5S
• List examples of 5S activities in Tanzania
• Define the improvement collaborative
• Describe the features of a improvement collaborative

Introduction
Currently, in Tanzanian context two QI approaches have been adopted for improving health care services; 5S and improvement collaborative. These two approaches use the four steps of QI.

3.1.2.1 Five S
Five S (5S) as an entry point for overall health system QI is a philosophy and a way of organizing and managing the work place and work flow with the intent to improve efficiency of work by eliminating waste, improving flow, improving safety and minimize time wasting, often occurring secondary to a disorganized environment.
• 5S Principles are reliable instruments which help to make a break-through in your work environment and staff attending various service provisions in an institution. This is not only a concept but also a set of actions, which has to be conducted systematically with the full participation of staff serving the institution.
• 5S activities are practiced in a real participatory movement to improve the quality of both the work environment and service contents, which are delivered to your clients using the improved environment. It is used as a basic, fundamental, systematic approach for productivity, quality and safety improvement in all types of organizations.

Targets of 5S principles are:
• Zero changeovers leading to product/ service diversification
• Zero defects leading to higher quality
• Zero waste leading to lower cost
• Zero delays leading to on-time delivery
• Zero injuries thus promoting safety
• Zero breakdowns bringing better maintenance
• Zero customer complaints, i.e., customer satisfaction
• Zero red ink, i.e., betterment of organization’s image
Furthermore, introduction of 5S is expected to instil team culture, increase morale and motivation and improve job satisfaction. They are simple but effective methods to organize the workplace (Hirano and Talbot, 1995). In the long-run implementation of the 5S principles also helps in creating positive altitude to the workforce.
What is 5S?

5S approach is based on the abbreviation for five terms presented below:

1. Sort
   - It is to remove unused stuff from your working place, by
   - Categorizing and colour code the items
   - Develop inventory list for all categorized items
   - Remove all unnecessary items for discarding
   - Store (keep) “may be needed” items
   - Regular sorting of unused items
   - Develop culture of returning items to where they belong

2. Set
   - It is to organize all necessary items in proper order for easy services provision
   - Organize cabinets with labelling/numbering
   - Keep items at their respective areas and label them accordingly
   - Directional arrows leading to service areas
   - Labelling of service rooms
   - Update stock/equipment inventories
   - The rules and regulations must be written and well known to all staff

3. Shine
   - It is to maintain high standards of cleanliness
   - Routine cleaning and mass cleaning campaign
   - Clean not only the place that comes into your view but also behind/under furniture or equipment
   - Clean and attractive environment will be appreciated by internal & external clients

4. Standardize
   - To set up the Sort, Set, and Shine as norms in every section of health facility
   - Work instructions
   - Standard Operating Procedures (SOPs)
   - Standards and regulations for both administrative and technical staff

5. Sustain
   - To train and maintain discipline of the health workers engaged
   - Apply regular self assessment
   - Quarterly 5S audit and implementation of improvement activities
Importance of 5S
- The workplace gets cleaned and better organized
- Hospital and office operations become easier and safer
- Results are visible to everyone; insider and outsiders
- Visible results enhance the generation of more and new ideas
- People will be proud about their clean and organized workplace
- As a result the health facilities good image generates more business

*Figure 3.1.2.1.1 Illustration of 5S*
Examples of 5S activities in Tanzania

Figure 3.1.2.1.2 Medical records room

Before 5S  
After 5S

Figure 2.1.2.1.3 Dumping Point at a Health Facility

Before 5S  
After 5S
3.1.2.2 Improvement collaborative
An improvement collaborative is the organized network of sites (examples district, facilities or community) that works together for a limited period, usually 9 to 24 months, of time to rapidly achieve significant improvement in a focused topic area through shared learning and intentional spread methods. QI collaborative develops the abilities of practitioners to use the approach to plan and test local changes in health care. For example in a regional set up, all selected health facilities will work on agreed improvement areas and monitor the progress of their activities and share best practices and challenges within a given time frame.
Phases of an improvement collaborative
1. The introductory phase
   - Organizing orientation sessions to obtain buy-in of the concept by the leadership of the region. During the session, the improvement concept is presented to the regional, district, and facility level management step for initiation and actual implementation of quality improvement activities and for the sustainability of the quality improvement work.

2. Implementing phase
   - The implementation phase is subdivided into two sessions:
     - **Learning Sessions**:
       - Regional and district management team undergo training on QI concepts and its application.
       - Is the first component of the actual implementation of a Collaborative where at agreed intervals (quarterly, biannually or otherwise) the implementing teams gather for three to four days to share experiences, challenges, and lessons learnt as they implement quality improvement.
       - If a team is stuck, they can learn from another team that found something that worked, and they feel the competition to keep up with the other teams.
       - QI teams also receive updates on quality improvement and the technical content of the subject they are working on.
       - Teams use evidence based standards of the identified problem and develop common improvement indicators.
       - At the end of each learning session, QI teams develop work plans for implementation during the Action Period.
• Usually a collaborative will run for 5-6 cycles of Learning Sessions alternating with Action Periods

**Action Period:**
Is the time when QI teams implement work plans developed during Learning Session to bring about desired changes? This is accomplished through application of the improvement model described earlier (4 steps of quality improvement and PDSA cycles). During action periods, teams do process of care analysis and design process changes to implement evidence based standards with the help of the coaches/mentors.

3. **Coaching and mentorship**
Coaching is a collective skill that both supervisors and mentors need to have in order to stimulate their ability of supervisees and mentees to improve the quality of services. Coaching and clinical mentoring is done by regional and district management team within their respective areas and they are expected to identify QI champions within their regions/councils and train them as coaches and mentors of others as per National Guideline of Supportive Supervision Manual. It is performed during action period in order to:

• These team are trained on coaching and clinical mentorship skills and they will act as coaches and QI experts to the QI team at each site.
• Assess team functionality
• Review collected data on priority indicators
• Review progress on implementation of work plan
• Provide on site training on formulation and testing of changes, documentation and plotting data on run charts

**Follow up learning sessions**

**During subsequent learning sessions QI teams:**

• Share experience, challenges and lessons learnt as they implement quality improvement, e.g. teams can learn from each other
• Share and spread best practices with other teams
• Conduct peer to peer learning
• Present realized activities and data collected based on work plans

**Factors to consider while implementing improvement collaborative**

• Ensure collaborating QI team to define their objectives
• Define roles and responsibilities to ensure that all members do know what is expected from them
• Make efforts to build strong teams in order to successfully implement the collaborative
• Create an environment that will enable mutual learning rather than carrying out teaching
• Motivate and empower the collaborative teams in the region (all levels)
• Teams should define measurable and achievable targets
• Provide the QI teams with knowledge and skills to deal with data and challenges arising from implementation of the identified change
• Share and spread best practices with other teams
Session 3.1.3: Leadership, roles and responsibilities of QI teams at different levels

Session objectives
By the end of this session, you will be able to:
- Define the concept of leadership
- Mention attributes of a leader
- Describe the roles of a leader in QI in health care setting
- Identify the roles and responsibilities of QI teams at the different levels of the health system in Tanzania

Introduction
The MOHSW in line with the governments’ policy is implementing the decentralization of the health system with the objective to empower district/councils who are the implementing agents and directly involved in the provision of health services. In the decentralization process the regional secretariat through the Regional Health Management Team (RHMT) serves as an arm of the MOHSW in coordinating policy implementation and providing technical support and supervisory oversight to the implementing authority in the councils; the Council Health Management Team (CHMT).

The RHMT in this sense plays a leadership role to the CHMT; and coordinates the implementation of MOHSW’s health policy and strategic plans. The CHMT provides leadership and managerial oversight to health facilities in the council in the provision of health services. In the efforts to improve the quality of HIV and AIDS services in the country, both RHMTs and CHMTS need to provide leadership to ensure that efforts to improve quality of services at facility level are successfully implemented.

Leaders and leadership
Koontz, and Weichrich [1] defined leadership as the art or process of influencing people so that they will strive willingly and enthusiastically toward the achievement of group goals.
- A leader is considered to be a catalyst helping a team to attain its objectives through the maximum application of his/her capabilities.
- Leaders do not stand behind a team to push and prod; they place themselves before the team as they facilitate progress and inspire the team accomplish common goals.
- A leader is supposed to help a team to attain set objectives. Leaders are those individuals who have the ability to influence and inspire others by providing a vision and direction for Quality Improvement of healthcare services. Leaders create the culture in which quality is both valued and promoted.

This concept of leadership has been positively applied by the science of quality improvement with various forms of approaches including the improvement collaborative approach as will be described in different sections of this training manual and the guidelines for HIV and AIDS in Tanzania.
Activity: group discussion
Brainstorm on attributes and roles of a leader

Attributes of a leader
Every team that performs very well has some person as its head who is skilled in the art of leadership. Below are four areas that leader need focus on:

- Have a vision of what can be achieved and shared with others and develop strategies for realizing the vision
- The ability to influence others to work together to achieve a common objective
- The ability to inspire others to achieve set objectives
- The ability to direct, promote a positive working environment, use creative problem solving and negotiate for resources to support achievement of set objectives

Other qualities of a leader includes being: truthful, focused, approachable, persuasive, confident, adaptive, a good communicator and of high integrity.

In addition to having some or all of the above mentioned leadership attributes, a successful leader needs to have some managerial skills as well. In some respects, leadership attributes are similar to those of a manager although they may differ slightly.

The attributes of an effective manager include, but are not limited to:

- Having clarity of purpose and tasks
- Having good organization skills
- Ability to communicate tasks and expected results effectively
- Ability to negotiate various administrative and regulatory processes
- Having good delegation skills

It is important to emphasize that good managers should strive to be good leaders and good leaders need management skills to be effective.

Roles of a leader in a team
Leaders are responsible for moving the team to accomplish its task. They should ensure an environment that helps teams get their work done. A balance must be maintained between keeping a team focused on the task and allowing a team to make its own decisions. A leader should be aware that all team members have a contribution to make and therefore should create an environment where everyone is free to share their ideas. In relation to improvement of quality of HIV and AIDS care and support services the roles of a team leader include but not limited to:

- To guide a team of healthcare workers to improve quality of services
- To inspire and assure cooperation among members of the team
- To promote individual contributions towards achieving set objective

Roles of a leader in QI in healthcare setting
There are four specific roles for a leader of a QI team to focus on

1. Support a systematic approach to QI
2. Communicate priorities
3. Educating team members
4. Facilitate innovation and learning
1. **Support a systemic approach to QI**

First, leaders need to support a systematic approach to quality. To do this, they must adapt their actual leadership actions to support measurement–centred and team-driven improvement work. They need to make quality a part of everyone’s job. “Quality is not extra work” but an environment in which every step of the process is quality oriented. To establish this, leaders should:

- Participate in quality improvement team meetings, create and share vision for quality and setting performance goals
- Use data in decision-making, stress importance of documentation, make sure that the ‘voice’ of patient is heard and institute regular review of data and standards to measure quality of service
- Support quality improvement changes and provide motivation
- Allocate resources including time, human and financial resources to support implementation of planned improvement activities

Leaders need to support team members as they learn new skills and create a safe environment for learning (e.g. through encouragement/motivation, allowing room for mistakes and continuous feedback etc). Furthermore on a regular basis meetings should be held to discuss quality improvement (e.g. monthly).

1. **Communicate priorities**

Priorities come from service quality gaps that have been identified through measurement of data. Not all gaps can be addressed at once, therefore it is important to select the most urgent area that requires immediate improvement and address it. As time goes by, more gaps can be added to the list of priorities. The roles of team leader shall be to:

- Facilitate the development of quality-oriented priorities
- Develop and reinforce a sense of common purpose
- Guide team members through conflicting priorities
- Clarify the quality goals of the team
- Facilitate ongoing dialogue between leader and team members on QI activities

Usually, health care systems are complex. Health care workers might get caught up in day-to-day work and may lose sight of long-term goals around meeting client needs. The job of the leader is to communicate priorities by keeping everyone focused on these long-term goals and encourage a sense of ownership of the goals with the health care workers. Leaders should guide QI teams in selection of priorities and clarifying quality goals

2. **Support team members**

Leaders need to allocate time in their schedules for QI work. This requires leaders to act as teachers, reinforcing the concepts of QI and making sure teams/individuals apply them throughout their work. They need to provide reassurance and guidance, if needed, to consistently support teams in QI efforts. Although the vision, direction and culture are shared within the whole team, it is the leader’s responsibility to maintain a direction and values that nurtures the shared vision of providing quality health care services. The role of QI team leader is to provide:

- Guidance
- Reassurance
- Support QI efforts
The role of leader in the team is to build and sustain skills over time. Educating team members requires leaders to act as teachers, reinforcing the concepts of QI and making sure teams/individuals apply them throughout their work.

3. *Facilitate innovation and learning*
Leaders influence teams’ performance by encouraging communication and cooperation among members. Leaders also convince others to take ownership of quality improvement work, they influence team’s performance. Leaders have the role of:
- Facilitating adoption of Plan Do Study and Act approach to QI
- Supporting staff as they learn new skills
- Creating a conducive environment for learning and for experimentation

**Roles and responsibilities of QI teams at different levels of health system**

Health services in Tanzania are organized in four levels: national, regional, district and facility level. National and regional levels are involved in policy, coordination and guidance, while district, council authorities and facility levels are responsible for direct implementation of the quality improvement strategy. According to the National Guidelines for Quality Improvement of HIV and AIDS Services, each level has a critical role in ensuring efficient and effective running of the QI program.

**Activity: Small group discussions on roles and responsibility of various levels of health system in implementing QI activities.**

**National level**
The MOHSW aims at a rapid rollout of Care and Treatment services to those in need, hand in hand with quality assurance. As implementing partners are more and more introducing QI approaches for HIV and AIDS services, coordination becomes important to ensure uniformity, which calls for formulation of national policy guidelines. The following are roles and responsibilities of MOHSW:
- Set QI policies and standards based on available evidence and best practices
- Develop guidelines for all core interventions with clear targets and monitoring indicators
- Develop a QI coordination mechanism including supportive supervision and mentoring and monitoring and evaluation system. supportive supervision tools
- Mobilize financial and technical resources for QI
- Develop and update the tools that are linked with the QI guidelines: measurements/assessment, supportive supervision, mentoring and M&E
- Identify training needs on QI and develop an appropriate capacity building programme.
- Disseminate QI guidelines and tools to regions and relevant stakeholders
- Prepare the respective QI training curricula for the national ToTs, ZTC and RQIT/CHMT
- Provide regular technical support through supportive supervision to regions in improving the quality of HIV and AIDS services and coordination and monitoring of its implementation
- In collaboration with national, referral and specialized hospitals provided support and coordination to regional hospitals in terms of provision of specialized laboratory testing, clinical mentoring and disseminating evidence based management of HIV and AIDS
• Develop and update the QI guidelines through lessons learned and available evidence

Regional level
At the regional level, the RHMT and HIV and AIDS IPOs will work together on QI activities in their region. The RHMT, being the government arm, will provide leadership to all stakeholders in QI activities connected to policy, coordination, advocacy and communication. The RHMT in collaboration with relevant stakeholders will accomplish the following QI tasks:

• Establish the regional QI team (RQIT), based on agreed eligibility criteria and specific Terms of Reference (ToR)
• Coordinate and provide leadership in the implementation of the QI guidelines in the region
• Provide linkage between MOHSW, Local Government Authorities (LGAs) and relevant stakeholders in QI activities for HIV and AIDS services
• Mobilize key stakeholders to join implementation of the QI guidelines at regional and district levels
• Monitor and supervise performance of districts on priority QI targets and indicators
• Provide regular technical support through supportive supervision to districts/council in implementation of the QI guidelines
• Receive district reports, aggregate and analyze for decision making, planning and management purposes
• Submit reports to national level and share with relevant stakeholders
• Ensure integration of QI activities for HIV and AIDS into all Comprehensive Regional Health Plans (CRHP)
• Distribute and enforce the use of HIV and AIDS intervention guidelines in the districts
• In collaboration with the regional hospital, coordinate and provide mentoring activities to district hospitals

Roles of regional hospital
The regional hospital being the referral level within the region will provide:

• Clinical services to inpatients and outpatients referred to by district hospitals
• Curative specialist services in the region
• Expert and technical support and mentoring to district, faith-based and private hospitals as well as primary health facilities on HIV and AIDS services
• Representative health professionals to join the RQIT and the QI implementation, in particular the clinical mentoring component

District/council level
Implementation of the health care policy has been decentralized to Local Government Authorities (LGAs). The day to day implementation of health services including QI is therefore the responsibility of CHMTs. In this regard, Councils have responsibility of ensuring availability of adequate resources for provision of quality health services. The following are specific responsibilities of CHMTs in relation to QI activities:

• Establish Council QI team (CQIT) with terms of reference and initiate QI processes within the district
• Implement HIV and AIDS QI activities in line with QI guidelines at the district level
• Provide a link between CHMT and RHMT, implementing partners, District Hospital and other health facilities on QI activities for HIV/AIDS services
• In collaboration with in-charges of health facilities, facilitate identification and training of QI teams at facility level
• Strengthen procurement systems to ensure uninterrupted supply of HIV and AIDS commodities
• Provide technical support to Hospitals, and Primary Health Facilities (PHFs) on HIV and AIDS QI related activities in public, faith-based and private facilities
• Conduct supportive supervision, mentoring and coaching to hospitals, PHFs in the district on QI activities
• Oversee QI implementation in the district by conducting review meetings regularly with all health facilities and relevant partners in the district
• Ensure functioning of the existing system for data collection, analysis, reporting and utilization in all facilities
• Receive facility reports, aggregate and analyze for decision making, planning and management purposes
• Submit monthly reports to the region
• Advocate, sensitize and promote HIV and AIDS QI activities at all levels within the district
• Monitor performance of health facilities on priority QI targets and indicators for HIV and AIDS services
• Conduct regular assessments of health facilities in the district to identify priority areas for improvement
• Ensure integration of QI activities for HIV and AIDS into all Council Comprehensive Health Plans (CCHP)
• Distribute and enforce the use of HIV and AIDS intervention guidelines in health facilities within the district
• In collaboration with the district hospital, coordinate and provide mentoring activities to primary health facilities.

District Hospital
The Hospital Management Team (HMT) of the district hospital being the referral level within the district should perform the following functions:
• Provision of clinical services to inpatients and outpatients referred from primary health facilities and other hospitals within the district
• Provision of curative services at the district hospital
• Providing expert and technical support, and mentoring to primary health facilities; public, faith-based and private on HIV and AIDS services

Health Facility level (Other Hospitals and Primary Health Facilities)
The roles and responsibilities of health facilities have been broadly described in intervention specific guidelines. Below are QI-specific roles and responsibilities of health facilities:
• Establish QI team and describe roles and responsibilities of team members
• Ensure implementation and management of QI activities
• Ensure clean and safe working environment for clients and health care workers
• Identify quality gaps through analyzing processes of care within the facility and propose changes for improvement
• Develop work plans and set targets based on defined national indicators
• Test the proposed changes and innovations using the QI model
• Collect, compile, validate, analyze, utilize and timely submission of data to the Council
• Share QI experience through existing internal and external forums including community health committee on HIV and AIDS

**Part 2: Implementing QI activities**

**Unit objectives**
*By the end of this unit, you will be able to:*
• Practice the application of QI steps and principles in developing a QI plan for a particular HIV and AIDS quality of care problem.

**Session 3.2.1: Preparation to practical assignment**

**Session objectives**
*By the end of this session, you will be able to:*
1. Review the QI principles and steps in QI
2. Set priorities and identify areas for improvement
3. Practice the procedure for formation of QI teams
4. Use standard format for documenting QI activities
Brainstorm activity
Mention the 5 QI principles

Activity
Large group discussion on model for improvement

Figure 3.2.1 Model for improvement

Model for Improvement

<table>
<thead>
<tr>
<th>What are we trying to accomplish?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How will we know that a change is an improvement?</td>
</tr>
<tr>
<td>What change can we make that will result in improvement?</td>
</tr>
</tbody>
</table>

**Act**  **Plan**

**Study**  **Do**
Developing and monitoring QI activities in health care setting

1. Identifying areas for improvement (step 1)
   To identify areas for improvement you should use:
   - Available data on performance indicators to identify quality gaps that needs to be addressed
   - Take the QI framework into consideration for HIV and AIDS services to select performance indicators related to access, retention and wellness

2. Ideas from clients on areas which they think needs improvements so as to improve client satisfaction

3. Formation of QI team for the identified / priority area and analyze the identified area for improvement (step 2)

4. Prioritization of areas of improvement and development of proposed change(s) (step 3)

5. PDSA cycle to implement the change for the identified area of improvement (step 4)

6. Use the SES to document proposed change and monitor if the changes result into an improvement

   The following matrix is used to fill in the identified changes during the process analysis. There could be more than one change to be tested per each improvement area. Important to know that not every change is an improvement and it is important to determine if change(s) are producing desired improvements through continuous measurement

   **The Matrix for Processing Identified Problem**

<table>
<thead>
<tr>
<th>Tested changes (include 1-2 sentences to briefly describe the changes)</th>
<th>Planned Started Date</th>
<th>End date if applicable</th>
<th>Responsible Person</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

   **ACTIVITY**

1. Identifying areas for improvement by using the QI framework for HIV and AIDS services related to access, retention and wellness
2. Formation of QI team for the identified / priority area
3. Prioritization areas for improvement
4. Fill in the identified changes in the standard SES format
Session 3.2.2: Practicum, feedback and next steps

Practicum objectives
By the end of this practicum, you will be able to:
- Identify problems for HIV and AIDS services in the respective health facility you visited
- Analyze the problem
- Develop and prioritize changes
- Test and implement change
- Document identified changes in the Standard Evaluation Form/System (SES/F)
- Provide feedback to the plenary on the tested changes

Instructions for practicum: Small group assignment to visit a Health Facility
- Facility stations/sections to visit
  - RCHS
  - CTC
  - OPD
  - Pharmacy

Tasks to be done at the facility
1. Identify problems for HIV and AIDS services
2. Analyze the problem
3. Develop and prioritize changes
4. Test and implement change
5. Document identified changes in the SES
6. Provide feedback to the plenary on the tested changes

Next steps after going back to your workplace
- Give immediate feedback to colleagues at your respective facility and the facility management and share the QI training package manual
- Establish a site QI team and appoint a QI focal person e.g. DACC, CTC in charge etc
- Identify areas for improvement in your workplace
- Carry out a process analysis for priority processes
- Use PDSA cycle to test and implement change
- Document identified changes in the SES (indicating objective, responsible person and timeline)
- Start implementing changes
- Continues monitoring by measuring
- Evaluate if the change resulted into an improvement and if so institutionalize the change or develop and test new changes

The PDSA cycle is a continues process.
Evaluation of the training

Session objective
*By the end of this session, you will be able to:*
1. Discuss achievements made after training
3. Assess the extent to which course objectives have been met
Annex 1: Case study Mrs. Kwangu

Introduction
Melela Health Centre (MHC) provides comprehensive antenatal services including Prevention of Mother to Child Transmission of HIV (PMTCT) and delivery. Melela Health Center does not provide care and treatment services. Patients who require care and treatment services are referred to the district hospital for further management.

Part 1: First RCHC visit
Mrs. Kwangu is a primigravida who attends RCHC clinic at Melela Health Center. During a health education session, Mrs. Kwangu was convinced to undergo counselling and testing for HIV. The HIV test results are positive, and since she was 30 weeks pregnant the RCH nurse midwife gives her Nevirapine and instructions on how and when to use. But while that process what taking place she was not registered in the PMTCT register nor in the RCH 4 card. She is then referred (without referral form) to CTC at the district hospital, about 80 kilometers from Melela Health Centre. She is afraid of disclosing to her husband, fearing that he would chase her away.

Part 2: Mrs. Kwangu at the District Hospital
Mrs. Kwangu organizes herself and on Monday leaves for the district hospital for CD4 count test as instructed by the counsellor. Because she did not have a referral slip, on her arrival at district hospital (around 9am), she was not sure where to go. She first went to the general reception, were she got registered and asked to sit at the waiting bench. She lines up at the queue and waits for 3 hours before seeing a clinician. After consultation she was directed to go to the laboratory for CD4 testing. She arrives at the laboratory few minutes after 12 noon. The Laboratory technician tells her she was late and that he had already reached his maximum number of 30 samples for CD4 testing for the day. She was given an appointment to come the following Thursday.

Part 3: Follow - up
On Thursday Mrs. Kwangu finds that she has no money for bus fare and no other means of transport therefore she fails to go to the district hospital.

Part 4: Next RCHC Visits at MHC
She continued attending the RCHC as scheduled. When labour started she reported in time at the health facility where she was received by a Nurse Midwife. She was examined and given instructions to go to the labour ward. At the second stage of labour which was an hour later Mrs Kwangu through the assistance of Nurse Assistant delivered a beautiful baby weighing 3.5 kg.

The following morning, she receives general health education about breastfeeding and care of the baby before she was discharged. She went home with her husband happily.

Part 5: Twelve months later
Mrs Kwangu was admitted at the district hospital Paediatric ward. Her beautiful baby was having recurrent pneumonia. The Doctor ordered several investigations including HIV testing which revealed that the baby was HIV positive.
Annex 2 Systems and Process Flow Chart

Identified steps that are unclear, inefficient, inconsistent and unnecessary

[Flowchart diagram showing the process from start to end with annotations for each step.]
Simplified flow chart after analysis and recommended changes for improvement
Re – designing the process

START
Patient enters ANC waiting room → Health Education Session → Registration and Routine Measurements → ANC Exam → CT Pre-test counseling → HIV Test

Post test Counseling

HIV +Ve → HIV -Ve

END
Patient seen by CTC Clinician → Adherence counseling → Patients seen by Triage Nurse → Patients come to CTC

1. Draw blood for CD4 testing
2. Send sample to Lab
3. Refer patient for CTC for Results
4. And show where CTC is

GO HOME
## Annex 3 Handout 1_Tanzania HIV/AIDS Patient Care and Treatment Indicators

<table>
<thead>
<tr>
<th>sn</th>
<th>Indicators or other aggregated data</th>
<th>Rationale</th>
<th>Reporting Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Percentage alive and on ART X months after start of ART (X= 12,24,36 and 48 months) <em>(Retention)</em></td>
<td>Assesses progress in providing ART to every person with advanced HIV infection. Monitors trends in coverage</td>
<td>National, UNGASS, UA, EWI</td>
</tr>
<tr>
<td>2</td>
<td>Percentage of persons starting first-line ART who are still on first-line ART X months later <em>(Retention)</em></td>
<td>Early warning indicator for HIV drug resistance</td>
<td>National EWI</td>
</tr>
<tr>
<td>3</td>
<td>Number enrolled in HIV care: (a)new and (b)cumulative ever at the facility by age and sex <em>(Access)</em></td>
<td>Identifies gross numbers of patients enrolling in HIV care, contributing to national targets and progress of scale-up</td>
<td>National</td>
</tr>
<tr>
<td>4</td>
<td>Number started on ART: (a)new and (b)cumulative ever started at the facility by age, sex and pregnancy status <em>(Access)</em></td>
<td>Identifies gross numbers of patients starting on ART, contributing to national targets and progress of scale-up</td>
<td>National</td>
</tr>
<tr>
<td>5</td>
<td>Number receiving HIV care during period by age and sex <em>(Access)</em></td>
<td>Identifies reach and accessibility of HIV care during scale-up, informs facility-level planning</td>
<td>National Global fund</td>
</tr>
<tr>
<td>6</td>
<td>Number currently on ART at the facility by age, sex and 1st-line or 2nd-line regimen *(Numerator for UNGASS and National Core 7) <em>(Access)</em></td>
<td>Assesses progress in providing ART to every person with advanced HIV infection</td>
<td>National Global Fund</td>
</tr>
<tr>
<td>7</td>
<td>Number medically eligible for ART but not yet started by age and sex. <em>(Access)</em></td>
<td>Identifies reach and accessibility of ART during scale-up</td>
<td>National</td>
</tr>
<tr>
<td>8</td>
<td>Number currently enrolled in care receiving Cotrimoxazole <em>(Access)</em></td>
<td>Allows monitoring of Cotrimoxazole use, drug supply management.</td>
<td>National</td>
</tr>
<tr>
<td>9</td>
<td>Number currently on ART receiving Cotrimoxazole <em>(Access)</em></td>
<td>Allows monitoring of Cotrimoxazole use</td>
<td>National</td>
</tr>
<tr>
<td>sn</td>
<td>Indicators or other aggregated data</td>
<td>Rationale</td>
<td>Reporting Obligation</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------</td>
<td>-----------</td>
<td>---------------------</td>
</tr>
<tr>
<td>10</td>
<td>Percentage patients currently on ART who status is (working, ambulatory, bedridden) <em>(wellness)</em></td>
<td>Patient productivity, quality of life, and therefore ART success</td>
<td>National</td>
</tr>
<tr>
<td>11</td>
<td>Percentage of health facilities that offer ART (UA) <em>(Access)</em></td>
<td>Measures access to Care and Treatment services</td>
<td>UNGASS</td>
</tr>
<tr>
<td>12</td>
<td>Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy. <em>(Access)</em></td>
<td>The indicator measures coverage of ART among those who need it.</td>
<td>UNGASS</td>
</tr>
</tbody>
</table>
| 13 | Percentage of individuals starting ART who are prescribed a standard regimen. *(Access)* | **Numerator:** Number of individuals initiating first-line ART at the site who are prescribed an appropriate first-line regimen during the selected time period  
**Denominator:** Number of individuals starting ART during the selected time period  
*Set target: 100%* | National EWI |
| 14 | Percentage lost to follow-up during the 12 months after starting ART. *(Retention)* | **"Lost to follow up" is defined as having missed three consecutive months of drug pick-ups and clinical appointments.**  
*Numerator:* Number of individuals starting ART during a selected period of time in the previous year who were subsequently classified as "LOST TO FOLLOW UP" during the first 12 months of ART  
*Denominator:* Number of individuals starting ART during the selected time period in the previous year  
*Set target: < 20%* | National EWI |
<p>| 15 | Percentage of persons starting first-line ART who are still on first-line ART 12 months later. <em>(Retention)</em> | <strong>Numerator:</strong> Number of individuals starting ART during a selected period of time in the previous year who are (12 months from ART start) still on | National EWI |</p>
<table>
<thead>
<tr>
<th>sn</th>
<th>Indicators or other aggregated data</th>
<th>Rationale</th>
<th>Reporting Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>first-line ART (this includes substitutions of one standard first-line regimen for another). <strong>Denominator:</strong> Total Number of individuals starting ART during a selected time period in the previous year, minus the number of individuals starting ART in that time period who were transferred out during the 12 months after starting ART. However, individuals who died, stopped ART, switched to second-line ART, or were lost to follow-up must be included in the denominator. <strong>Set target:</strong> &gt; 70%</td>
<td></td>
</tr>
</tbody>
</table>
| 16 | Percentage of persons who attended all appointments during a year. *(Retention)* | **Numerator:** number of individuals who were on ART at the end of the previous year or who started ART at some time during the present year who kept all appointments on time in the year up until the time they were classified as lost to follow-up, dead, transferred out, or stopped ART  
**Denominator:** number of individuals who were on ART at the end of the previous year or who started ART at some time during the present year  
**Set target:** 80% | National EWI |
| 17 | Percentage of HIV positive patient who were screened for TB in HIV Care or Treatment setting *(Access)* | **Numerator**  
**Denominator** | New national indicator for TB/HIV collaborative activities |
| 18 | Percent of HIV positive patient in HIV Care or Treatment (pre ART or ART) who started TB treatment *(access)* | **Numerator**  
**Denominator** | New national indicator for TB/HIV collaborative activities |
<table>
<thead>
<tr>
<th>sn</th>
<th>Indicators or other aggregated data</th>
<th>Rationale</th>
<th>Reporting Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Number of HIV positive clinically malnourished who received therapeutic and or supplementary food <em>(wellness)</em></td>
<td><strong>Nutritional support</strong></td>
<td>New national indicator</td>
</tr>
</tbody>
</table>
Annex 4 Worksheet: Standard Format for Documentation of Quality Improvement work

Site Name: _________________

Part A: Planning worksheet

Improvement Objective: To

Indicator:

Description of Problem:
Briefly describe the problem being addressed and gaps between the current situation and your improvement objective.

Process Analysis:
Which steps in the process of care are currently problematic?

Part B: Changes Worksheet

In the table below, please list all the changes you will introduce

<table>
<thead>
<tr>
<th>Tested Changes: Use 1-2 sentences to briefly describe the tested change</th>
<th>Planned Start Date:</th>
<th>End Date (if applicable)</th>
<th>Responsible person</th>
<th>Comments: Note here any evidence that the change took place, and potential reasons why it was or was not effective such as key barriers or important enabling factors.</th>
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</thead>
<tbody>
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</tbody>
</table>

88
Part C: Graph: Describe the indicator(s) you have used, including the value of the numerator and denominator. Annotate your graph based on the time the change was introduced or ended. You may use the change's number (from the table above) to annotate.

Name of the indicator:
Definition of the numerator: definition of the denominator:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Time (Months)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

Indicator #1 ( )

<table>
<thead>
<tr>
<th>Numerator</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td></td>
<td></td>
<td></td>
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</tbody>
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### Annex 5
Course Schedule for Basic Quality Improvement Training

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Time</th>
<th>Activity</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>08.00 - 08.15</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08.15 - 08.30</td>
<td>Participants Introductions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08.30 - 09.00</td>
<td>Expectations, Norms and Logistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09.00 - 09.30</td>
<td>Welcome and opening Remarks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09.30 - 10.00</td>
<td>Pre-course questionnaire</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.00 - 10.30</td>
<td>TEA BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.30 - 10.45</td>
<td>Training Objectives, Output and course Schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.45 - 12.45</td>
<td>Introduction to Quality Improvement in Tanzania</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.45 – 13.45</td>
<td>Introductions to Concepts of Quality in Health Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13.45 – 14.45</td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.45– 16.45</td>
<td>Dimensions of Quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.45 – 17.00</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17.00 – 17.30</td>
<td>End of the day 1: Facilitators meeting</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 2</th>
<th>Time</th>
<th>Activity</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>08.00 - 08.15</td>
<td>Recap day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08.15 - 08.30</td>
<td>Secretariat Report day 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08.30 - 09.30</td>
<td>Define quality improvement Principle of Quality : Focus on Clients Needs and Expectations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09.30 – 10.30</td>
<td>Principles of Quality: Focus on communication and feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.30 – 11.00</td>
<td>TEA BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.00 - 13.30</td>
<td>Principles of Quality: Focus on Team work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13.30 – 4.30</td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.30 –</td>
<td>Principles of Quality: Focus on</td>
<td></td>
</tr>
</tbody>
</table>
### Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.00 – 17.15</td>
<td>Evaluation of day two</td>
</tr>
<tr>
<td>17.15 – 17.30</td>
<td><strong>COFFEE BREAK</strong></td>
</tr>
<tr>
<td>17.00 – 18.00</td>
<td>End of the day 2: Facilitators meeting</td>
</tr>
</tbody>
</table>

### Day 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.00 - 08.15</td>
<td>Recap day 2</td>
</tr>
<tr>
<td>08.15 - 08.30</td>
<td>Secretariat Report day 2</td>
</tr>
<tr>
<td>08.30 - 10.30</td>
<td>Principles of Quality: Focus on Systems and Processes</td>
</tr>
<tr>
<td>10.30 – 11.00</td>
<td><strong>TEA BREAK</strong></td>
</tr>
<tr>
<td>11.00 - 13.00</td>
<td>Principles of Quality: Focus on Systems and processes <strong>(continues)</strong></td>
</tr>
<tr>
<td>13.00 – 14.00</td>
<td><strong>LUNCH BREAK</strong></td>
</tr>
<tr>
<td>14.00 - 16.00</td>
<td>Steps in Quality Improvement and Improvement Model (PDSA Cycle)</td>
</tr>
<tr>
<td>16.00 – 16.20</td>
<td>Evaluation of day three</td>
</tr>
<tr>
<td>16.20 – 16.40</td>
<td><strong>COFFEE BREAK</strong></td>
</tr>
<tr>
<td>16.40 – 17.20</td>
<td>End of the day 3: Facilitators meeting</td>
</tr>
</tbody>
</table>
### Day 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.00 - 08.15</td>
<td>Recap day 3</td>
<td></td>
</tr>
<tr>
<td>08.15 - 08.30</td>
<td>Secretariat Report day 3</td>
<td></td>
</tr>
</tbody>
</table>
| 08.30 – 10.30 | Quality Improvement Approaches:  
- 5S and  
- Improvement Collaborative |             |
| 10.30 – 11.00 | TEA BREAK                                          |             |
| 11.00 – 14.00 | Leadership in Quality Improvement  
Roles and responsibilities of QI implementation at different levels |             |
| 14.00 – 14.45 | LUNCH BREAK                                       |             |
| 14.45 – 15.30 | Discovering and managing change and ToT Guide      |             |
| 15.30 – 16.00 | Preparation to Practical Assignment                |             |
| 16.00 – 16.20 | Evaluation of day four                            |             |
| 16.20 – 16.40 | COFFEE BREAK                                      |             |
| 16.40 – 17.20 | End of the day 4: Facilitators meeting            |             |

### Day 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.00 - 08.15</td>
<td>Recap day 4</td>
<td></td>
</tr>
<tr>
<td>08.15 - 08.45</td>
<td>TEA BREAK</td>
<td></td>
</tr>
<tr>
<td>09.30 – 12.30</td>
<td>Practicum: Visit to the Health Facility for Practical Session</td>
<td></td>
</tr>
<tr>
<td>12.30 – 13.30</td>
<td>Practicum: Summarize the problem identification/analysis and provide feedback to facility</td>
<td></td>
</tr>
<tr>
<td>13.30 – 14.30</td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td>14.30 – 15.30</td>
<td>Classroom: Feedback session and next Steps (work plan)</td>
<td></td>
</tr>
<tr>
<td>15.30 – 16.00</td>
<td>Evaluation of Training: Post – Course Evaluation</td>
<td></td>
</tr>
<tr>
<td>16.00 – 16.20</td>
<td>Evaluation of Training: Filling Course Evaluation forms</td>
<td></td>
</tr>
<tr>
<td>16.20 – 16.40</td>
<td>Evaluation of Training: Feedback to</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
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</tr>
<tr>
<td>16.40-17.00</td>
<td>Pre- and Post – Course Questionnaires</td>
<td></td>
</tr>
<tr>
<td>17.00-17.30</td>
<td>Closing and Refreshments</td>
<td></td>
</tr>
<tr>
<td>17.00-17.30</td>
<td>End of the day 5: Facilitators meeting</td>
<td></td>
</tr>
</tbody>
</table>