

**THE UNITED REPUBLIC OF TANZANIA**



**MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT,  
GENDER, ELDERLY AND CHILDREN**

# **NATIONAL GUIDELINE FOR CLINICAL AUDIT, VERSION 1**

**NOVEMBER  
2020**

**THE UNITED REPUBLIC OF TANZANIA**



**MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT,  
GENDER, ELDERLY AND CHILDREN**

**CLINICAL AUDIT TOOL FOR ALL LEVELS  
OF HEALTH SERVICES**

**GENERIC TOOL**

**NOVEMBER, 2020**

# **NATIONAL GUIDELINE FOR CLINICAL AUDIT**

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## ABBREVIATIONS AND ACRONYMS

For the purposes of this National Guideline for Clinical Audit at all Health Facility Levels, these abbreviations and acronyms will apply:

| Abbreviations   | Acronyms                                                                |
|-----------------|-------------------------------------------------------------------------|
| <b>APHFTA</b>   | Association of Private Health Facilities in Tanzania                    |
| <b>CHMT</b>     | Council Health Management Team                                          |
| <b>CPD</b>      | Continuous Professional Development                                     |
| <b>EMR</b>      | Electronic Medical Records                                              |
| <b>HMIS</b>     | Health Management Information System                                    |
| <b>HoD</b>      | Head of Department                                                      |
| <b>IPC</b>      | Infection Prevention and Control                                        |
| <b>IPs</b>      | Implementing Partners                                                   |
| <b>ISO</b>      | International Organization for Standardization                          |
| <b>MoHCDGEC</b> | Ministry of Health, Community Development, Gender, Elderly and Children |
| <b>NGO</b>      | Non-Governmental Organization                                           |
| <b>PER</b>      | Public Expenditure Review                                               |
| <b>PHC</b>      | Primary Health Care                                                     |
| <b>PO-RALG</b>  | President's Office - Regional Administration and Local Government       |
| <b>POCT</b>     | Point of Care Testing                                                   |
| <b>QA</b>       | Quality Assurance                                                       |
| <b>QI</b>       | Quality Improvement                                                     |
| <b>QIP</b>      | Quality Improvement Plan                                                |
| <b>QIT</b>      | Quality Improvement Team                                                |
| <b>RHMT</b>     | Regional Health Management Team                                         |
| <b>TOR</b>      | Terms of Reference                                                      |
| <b>TQM</b>      | Total Quality Management                                                |
| <b>WHO</b>      | World Health Organization                                               |
| <b>WIT</b>      | Work Improvement Team                                                   |
| <b>ZHRC</b>     | Zonal Health Resource Centers                                           |

## PREFACE

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) is firmly committed to ensure safe, quality health care services to the people of Tanzania in order to minimize health care related risk by adhering to approved guideline and standards. National guideline for clinical audit contained in this document reflects this commitment.

Clinical Audit is a critical component of quality health services, yet it has received insufficient attention in the health care settings. Clinical audit practice involves the selection of aspects of the structure, processes and outcomes of care, which are then systematically evaluated against explicit standards. If required, improvements should be implemented at an individual, team or institution, community level and then the service re-evaluated to confirm improvements.

The main goal of clinical audit is to improve quality of health care services by providing information, recommendations and actions to be taken to eliminate preventable medical errors at health facilities, allowing a full understanding of the chain of events related to a health care service provision, identify the existing gaps in the management of the patient, and then come up with the best solutions to correct the identified gaps, build a culture of adherence to standards thus reducing malpractice and play part as means of identifying deficiencies in available standards and guideline and result into review.

In Tanzania, currently clinical audits are conducted for maternal and perinatal mortality and point of care Testing for HIV. Clinical audit does not replace the existing quality initiative such as supportive supervision but rather complement this effort. The purpose of this document is to provide all stakeholders with basic knowledge on application of clinical audit in their health care settings and day-to-day activities.

The MoHCDGEC is dedicated to strengthening and support clinical audit practices and will ensure proper implementation through increased budgetary allocations to meet the requirements for improved clinical audit practices. Likewise, the combined efforts of every stakeholder will ultimately result in improved quality of care for all patients/clients and health personnel.



**PROF. ABEL MAKUBI**  
**CHIEF MEDICAL OFFICER**

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MoHCDGEC wishes to thank all representatives from MoHCDGEC Divisions, Sections, Units, PO-RALG, Institutions, Agencies, FBOs, NGOs and private sector for their participation and contribution towards the process of planning and development of clinical audit guideline.

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**DR GRACE E. MAGEMBE**  
**DIRECTOR FOR CURATIVE SERVICES**

## DEFINITION OF TERMS

For the purposes of this National Guideline for Clinical Audit at all Health Facility Levels, these terms and definitions will apply:

| Terms                    | Applicable Definitions                                                                                                                                                                                                                                                                           |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Audit                    | refers to systematic and critical appraisal of the planning, delivery and evaluation of service/s in terms of efficiency, effectiveness and quality within given resources. It is an evaluation of data, documents and resources to check performance of system if it meets specified standards. |
| Audit evidence           | refers to records, statements of fact or other information, which are relevant to the audit criteria and verifiable.                                                                                                                                                                             |
| Audit scope              | refers to the activities covered by an internal audit. Audit scope includes, where appropriate: audit objectives; nature and extent of auditing procedures performed; time audited; and related activities not audited in order to delineate the boundaries of the audit.                        |
| Clinical audit           | refers to a systematic analysis of the quality of health care, including the procedures for diagnosis, treatment and care, the use of resources and resulting outcome and quality of life for the patient.                                                                                       |
| Clinical guideline       | refers to systematically developed statements, based on a thorough evaluation of the evidence, to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances across the entire clinical spectrum                                                |
| Competence               | refers to the ability to apply knowledge and skills to achieve intended results                                                                                                                                                                                                                  |
| Conformity               | refers to defined as the fulfillment of a requirement                                                                                                                                                                                                                                            |
| Criterion                | refers to a measurable item of health care, example set of policies, procedures or requirements, which describes quality and can be used to assess it                                                                                                                                            |
| External Clinical Audits | refers to type of audit conducted by an external body to review a process, practice, or outcomes against a pre-agreed set of standards and forms part of the quality improvement process                                                                                                         |
| Internal Audit Programme | refers to a medium-term plan (~3 years) of internal audits to be undertaken by an institution                                                                                                                                                                                                    |
| Internal Audit Work Plan | refers to outlines in detail the work to be completed for each year of the internal audit programme.                                                                                                                                                                                             |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Internal Clinical Audits      | refers to type of audits that are conducted by the institution itself to review a process, practice, or outcomes against a pre-agreed set of standards and forms part of the quality improvement process.                                                                                                                                                                                              |
| Medical Audit                 | refers to systematic critical analysis of the quality of medical care including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patient                                                                                                                                                                                    |
| Quality Assurance             | refers to the process of verifying or determining whether products or services meet or exceed clients' expectations and put measures to ensure quality is maintained.                                                                                                                                                                                                                                  |
| Quality Improvement (QI)      | refers to systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups                                                                                                                                                                                                                                               |
| Quality Improvement Plan      | refers to a formal, documented set of quality commitments aligned with system and provincial priorities that a health care institution makes to its patients/clients/residents, staff and community to improve quality through focused targets and action. The important elements of a good quality improvement plan are; gap, set of activities, timeline, responsible person and progress monitoring |
| Quality Improvement Team      | refers to a group of selected, multilevel, multidisciplinary staff tasked to oversee improvement on the day-to-day performance in a health facility/community, conduct periodic performance assessments and liaise with the management on improvement strategies and activities.                                                                                                                       |
| Quality measures              | refers to criteria for assessing, measuring and monitoring the quality of care as specified in the quality statement                                                                                                                                                                                                                                                                                   |
| Quality statements            | refers to concise statements of priorities for measurably improving quality of care.                                                                                                                                                                                                                                                                                                                   |
| Service Evaluation/Inspection | refers to carried solely to define or judge current care e.g. carried out to investigate the admitted patient who fall down and die while taking bath in the medical ward                                                                                                                                                                                                                              |
| Service users                 | refers to recipient of health care services at facility level a person or group of people from which auditable clinical outcome                                                                                                                                                                                                                                                                        |
| Standard                      | <p>refers to statement of the desired achievable performance or values with regard to a given parameter.</p> <p>Or a description of what is expected to be provided to achieve high-quality care delivery</p>                                                                                                                                                                                          |

Work  
Improvement  
Team

refers to a small team of service providers that meets regularly to solve the problems relating to their job scope or workplace or group of people working together to achieve a common goal for which they share responsibility with aim to improve quality of health services



# 1. INTRODUCTION

## 1.1 BACKGROUND

Clinical audit is a systematic analysis of the quality of health care, including the procedures for diagnosis, treatment and care, the use of resources and resulting outcome and quality of life for the patient. The history of clinical audit can be traced back to the work of Florence Nightingale (1800s) and Ernest Codman (early 1900s), who monitored mortality and morbidity rates in their respective institutions<sup>24, 25</sup>. Nightingale used an epidemiological method of review, monitoring rates of nosocomial infections in relation to standards of hygiene. Codman introduced the idea of systematic record review as a way of identifying errors.<sup>1</sup>

In the earlier years, the term medical audit was commonly used. It was used to refer to systematic critical analysis of the quality of medical care including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patient. The term clinical audit has largely replaced the earlier term medical audit.

Clinical audit practice involves the selection of aspects of the structure, processes and outcomes of care, which are then systematically evaluated against explicit standards. If required, improvements should be implemented at an individual, team or institutional level and then the service re-evaluated to confirm improvements.

In Tanzania, clinical audits are currently conducted for monitoring outcome of some interventions such as maternal and perinatal mortality and point of care testing (POCT) for HIV. Maternal and perinatal mortality audit was introduced since 2015 and its implementation includes identification, notification and review of maternal deaths to stimulate learning from what went wrong.<sup>2,3</sup> MoHCDGEC developed a National Framework for Point of Care Certification Program<sup>4,5</sup> following the recommendation from WHO<sup>6</sup> to ensure quality of HIV rapid test services by conducting regular auditing of HIV testing site in order to determine to comprise to quality standards or HIV testing services. In addition to clinical audits, supportive supervisions to health care facilities are conducted as means of ensuring compliance to available standards. Clinical audit does not replace the existing supportive supervision.

Clinical audit and clinical research are mistakenly used as synonymous terms, but clinical audit is not a form of clinical research. While both are systematic methods of investigation, clinical audit is about measuring current clinical practice compared with established good practice. Research is about generating hypotheses and verifying scientifically a predicted but not necessarily proven relationship between or among variables, such as clinical processes and outcomes.

In recent years, there has been a growing demand for access to high quality and affordable health care for all. The government committed to respond by reviewing health policy, developing and adopting various standard guideline, protocols and tools, which give more focus on patient safety, cost effective interventions and reduction of hospital related risks. In line with this commitment, budget allocation to health sector has progressively increased from 9.3% in 2013/14 to 10.1% in 2015/16. According to 2015/16 Public Expenditure Review (PER) 8.6 % of government expenditure is on health, making it rank third in the government expenditure. In addition, the government health expenditure on Health System Strengthening is projected to increase from 76% in 2015 to 79% in 2020.

Furthermore, the government is aiming at increasing health insurance coverage with the aim of attaining universal health insurance for all Tanzanians. This will enable all citizens to access and afford quality health care services.

Despite the aforementioned government efforts and commitment towards improving quality of health service delivery in the country, several monitoring and evaluation reports have demonstrated that clinical areas still need more attention in order to ensure patient safety. One of the key challenges highlighted by star rating assessments conducted between 2015 and 2018 for primary health facilities and regional referral hospitals was non-compliance to set standards and guideline. This leads to increase of health care related risks such as hospital acquired infections, which is 15% (WHO 2011) in primary health facilities, high maternal mortality ratio that was reported to be at 556 per 100,000 live births in 2015/16. These and many other concerns are causes of client dissatisfaction as evidenced by client complaints at all levels of care.

Tanzania Vision 2025<sup>7</sup> aims to develop outcomes that provide assurance of quality clinical services in the health care system in the country. This will be achieved by ensuring that the right things are implemented in the right way making sure health care workers practice based on the best available evidence. Cost effective best practices will be adopted to ensure the limited resources are well utilized. Achieving the best outcomes requires providing care that is safe and effective in a way that provides the best possible patient experience. This guideline focuses on use of clinical audit to evaluate compliance of health care services to agreed standards.

## **1.2 THE CURRENT SITUATION OF THE QUALITY OF CLINICAL CARE IN TANZANIA**

The star rating assessment of primary health care facilities was first carried out in 2015/16 and repeated in 2017/18 to determine the quality of health care delivery in each health facility based on a star rating tool with 12 service areas (Legality and licensing; health facility management; use of facility data for planning and service

Improvement; staff performance assessment; social accountability at the health facility level; client satisfaction; organization of services, handling of emergency cases and referral system, health facility infrastructure; infection prevention and control; clinical services; and clinical support services) and 4 domains (management of health facility and staff performance domain, fulfillment of services charters and accountability domain, safe and conducive facilities domain, and quality of care).<sup>8</sup> The star rating domain percentage scores, and the scores in all 12-service areas comprised the star rating profile.

In the baseline assessment in 2015/16 a total of 6,993 Primary Health Care (PHC) facilities were assessed and the result revealed that 2399 (34%) scored zero star, 3588 (51%) scored one star, 869 (13%) scored two star, 131% (2%) scored three stars and 6 facilities (0%) scored 4 stars. By the end of 2018, 7,289 PHC facilities had a repeated assessment after some intervals of 12-24 months. The result was 456 facilities (6%) scored zero., 2396 facilities (33%) scored one star, 3067 facilities (42%) scored two stars, 1276 facilities (18%) scored three stars and 94 facilities (1%) scored four stars. Comparing two assessments (baseline and reassessment; the zero-star facilities were reduced from 34% to 6% and 19% of facilities scored three stars and above compared with 2% at baseline.<sup>9</sup>

Analysis of data of service area number ten which is IPC revealed that adherence on IPC were 30%, 53% and 65.9% for dispensaries, health centres and hospitals respectively during

baseline study, whereas reassessment results showed an improvement to 55%, 75% and 78.1% of dispensaries, health centers and hospitals respectively. In average, adherence to IPC standards increased from 31% to 57% after interventions.<sup>10</sup>

For referral hospitals (Regional, Zonal and National) a structured tool was developed in 2017 to assess hospitals capabilities against the quality standards which were established for these hospitals. Capabilities assessed were evidenced driven leadership and management; patients' focused processes; safe conducive environment for patients and staff; competent and capable staff and management of quality and patient's safety. From February to September 2018, twenty-seven regional level hospitals were assessed. One scored zero star, sixteen scored one star and ten hospitals scored two stars.<sup>11</sup> Assessment of the area of patients' care focused processes revealed deficiencies in clerkship, adherence to guidelines, patients' review by specialists and irregularities in carrying out ward rounds. Following the challenges observed in this area it was recommended the hospitals initiate clinical audit of their care processes.

The nationwide star rating assessment revealed the need to have an initiative focusing on improvement of clinical processes of care. An evaluation of the star rating system done by Ifakara Health Institute in collaboration with Primary Health Care Performance Initiative (PHCPI) also suggested that assessment and improvement of processes of care is a gap that is not well addressed in the star rating initiative thus highlighting the need to have a clinical audit system in place<sup>12</sup>

### **1.3 RATIONALE FOR INTRODUCING CLINICAL AUDIT**

Several supervisions in the Country have reported poor quality of health services. Contributing factors include shortage of skilled health care workers, lack of incentives, uneven distribution of health workers, and poor access to essential medicines, poor customer care and poor infrastructure. In response to these observations, the government employed health workers to reduce staff shortage from 65% in 2007 to 54% in 2018 (MoHCDEG staffing level), and increase in the annual budget on health. In addition, donor countries and other stakeholders support the government through financial aid and technical support, which aims at addressing HIV/AIDS services, mother and child health and quality improvement initiatives like SafeCare, 5S-KAIZEN TQM, Infection Prevention and Control (IPC).

Despite these significant investments in health sector, yet some key statistics like maternal mortality and client satisfaction have not shown improvement. This implies that there are still many challenges in the delivery of health care services, which call for further intervention.

The increased public awareness on patient's rights and growing of new health facilities coupled with rapid advancements in the medical field increases complexity in management of health care system in Tanzania. This necessitates a call for an effective mechanism to ensure applicable laws, regulations, standard operating procedures and guideline are followed in the course of providing medical care.

As the government is aiming at establishing national accreditation board for health care facilities in Tanzania, endorsement of clinical audit as a mechanism for improving the quality and effectiveness of health care is necessary. Clinical audit will provide assurance that the services provided by the health care facilities in Tanzania reflect evidence-based practice and are of good quality. Therefore, introduction of clinical audit in the health care system of Tanzania will result into delivery of high-quality services and hence improve patient outcome.

## **1.4 OBJECTIVE**

This guideline provides guidance on implementation of clinical audits in the Tanzania health care system. The main objective of clinical audit is to improve quality of health care services in the following ways:

- a) Elimination of preventable medical errors at health facilities.  
Allowing a full understanding of the chain of events related to a health care provision, identify the existing gaps in the management of the patient, and then come up with the best solutions to correct the identified gaps
- b) Building culture of adherence to standards thus reducing malpractice
- c) Identifying deficiencies in available standards and guideline and result into review

NB: This guideline and the results of audit can never be used as a basis of instituting punitive measures or for litigation purposes.

## **1.5 SCOPE OF CLINICAL AUDIT**

This guideline provides guidance on auditing clinical care provided by both public and private health facilities in Tanzania. These include community health care services and standalone facilities e.g. stand-alone laboratory. The document will be used by health care stakeholders responsible for overseeing the direction and development of clinical audit within the institution or who are involved in the clinical audit process. At national level, there is a responsibility to ensure that clinical audit is an integral part of the quality improvement and clinical governance strategies. These include the following; principles of auditing, managing clinical audit programme, conducting clinical audits, as well as guidance on the evaluation of competence of individuals involved in the audit process.

In addition, this document will be used by health care practitioners involved in the whole process of providing health care in Tanzania including national interventions.

## **1.6 LIMITATION OF CLINICAL AUDIT**

The guideline will be used as a general clinical auditing manual therefore, there is a need to develop specific auditing tools or checklists of health services rendered in health facility in order to be used when conducting facility audits.

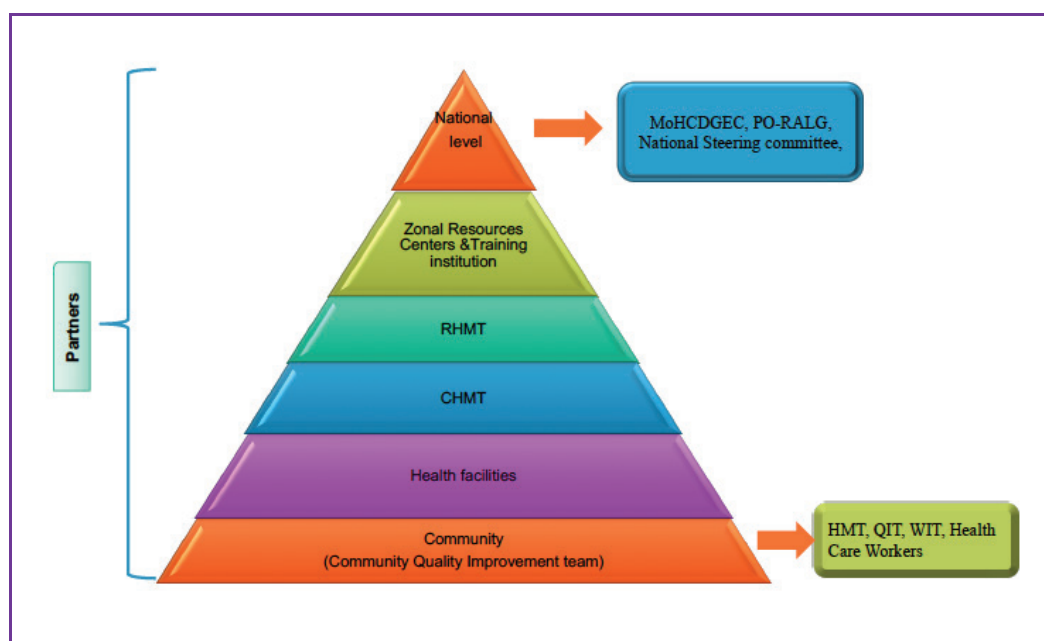
## **1.7 PRINCIPLES OF CLINICAL AUDIT**

For an effective clinical audit to be carried out, it is necessary for the team to follow specific principles to ascertain consistency in the process and produce reliable findings, which can be used to form a base for improvement of clinical care.

## 2. ENABLING ENVIRONMENT ROLES AND RESPONSIBILITIES OF KEY STAKEHOLDERS FOR IMPLEMENTATION OF CLINICAL AUDIT

### 2.1 STAKEHOLDERS AND GOVERNANCE

Successful clinical audit process involves different stakeholders with specific roles and responsibilities at all levels. Below is a list of identified stakeholders;



**FIGURE 1: Stakeholders in Clinical Audit**

#### **Example of Team of Auditors:**

1. Team of auditors from MoHCDGEC - will audit National Referral Hospitals and all levels
2. Team of auditors from National Hospitals - Audit Zonal and specialized referral hospitals, may also be assigned to audit any level of the health facilities below.
3. Team of auditors from Zonal & Specialized Hospitals-Audit Regional Referral hospitals, may be assigned to audit any level of health facilities below
4. Team of auditors from Regional Levels-Audit district hospitals, may be assigned to audit any level of health facilities below
5. Team of auditors from district levels-Audit health centers, dispensaries and health posts

#### **2.1.1 National level**

##### **2.1.1.1 Role and responsibilities of MoHCDGEC**

- i. Coordination of the overall clinical auditing process in the country through National Quality Improvement Committee;
- ii. Mobilizing resources for clinical auditing;
- iii. Developing and reviewing the guideline, standards and checklists to support clinical audit;

- iv. Developing rollout plans for clinical audit and schedule of implementation;
- v. Providing guidance on implementation of clinical audit activities;
- vi. Setting standards and criteria for clinical auditing;
- vii. Training and maintaining database of auditors;
- viii. Perform root cause analysis and develop corrective actions for auditing performed by ministry at certain facility;
- ix. Facilitating correction of identified gaps and sorting out concerns directed to National level;
- x. Review and follow up implementation of all recommendations of the corrective action at all levels;
- xi. Review and archive compiled quarterly clinical audit report from all region and facilities reporting to the Ministry and share reports during Steering committee meeting;
- xii. Periodic Supportive supervision, Mentoring and Coaching on clinical Audit processes;
- xiii. Monitoring and evaluating of clinical auditing activities;
- xiv. Conduct meeting with stakeholders to share best practices and challenges identified during clinical audit and provide way forward;
- xv. Develop and approve appropriate tools to guide clinical audit activities;
- xvi. Maintaining synergy with other ministries responsible for health sector in the country;
- xvii. Coordinate meetings for National Steering Committee on Clinical Audit.

#### **2.1.1.2 Role and responsibilities of PO-RALG**

- i. Oversee the overall implementation of clinical auditing process in Primary Health care Facilities;
- ii. Provide resources for clinical auditing in Primary health care facilities;
- iii. Oversee the implementation of guideline, standards and criteria developed and approved by ministry of health for different clinical processes;
- iv. Providing guidance on implementation of clinical audit activities at primary health care facilities;
- v. Collaborate with MoHCDGEC in mentoring and coaching on clinical audit processes and monitoring and evaluation of clinical auditing activities;
- vi. Integrate clinical audit activities in supportive supervision tool of primary health care facilities;
- vii. Identify and disseminate appropriate tools approved by MoHCDGEC to facilitate clinical audit in primary health care facilities;
- viii. Perform root cause analysis and develop corrective actions for auditing performed by Ministry at Primary health care facilities;
- ix. Review and follow up implementation of all recommendations of the corrective action at all levels at Primary health care facilities;
- x. Share clinical audit report with MoHCDGEC.

#### **2.1.1.3 National Steering Committee for Clinical Audit**

There will be a committee to oversee the clinical audit activities at national level. This committee will be formed as a Sub-Committee of National Quality Improvement Committee. The committee will oversee the implementation of clinical audit guideline at all level of health care system in Tanzania.

#### **a) Membership**

Members of the committee shall come from National Quality Improvement Committee amongst its members or as determined by the needs and expertise and shall include public and private stakeholders. The structure, composition and TOR for this sub-committee will be developed by the National Quality Improvement Committee.

#### **Members of the Steering committee:**

1. Chief Medical Officer
2. Director of Curative Services
3. Director of Health Quality Assurance Unit
4. Director of Prevention Services
5. Director of Policy and Planning
6. Director of Human Resources
7. Chief Pharmacist
8. Director of Nursing and Midwifery services
9. Director of Health-PORALG
10. Head of ICT
11. Commissioner for Social Welfare
12. Head of Legal Services Unit
13. Co-opted members from CSSC, BAKWATA, APHFTA, All Professional professional associations, councils and board

#### **b) Quorum**

The quorum necessary for the meeting to take place shall be not less than 50% of members. Members will work towards consensus model for decision-making.

#### **c) Roles and responsibilities**

The main role of this committee is to review and provide technical advice to the National Quality Improvement Committee and any other as per requirement.

- i. Coordinate training for all skilled health care workers to take part in clinical audit activities at all level;
- ii. Maintain approved standards and tools developed for various clinical audit process in Tanzania;
- iii. Support development of professional guideline, protocols and standard to govern provision of quality health care services;
- iv. Oversee implementation and review of clinical audit guideline;
- v. Link clinical audit activities with Continuing Professional Development (CPD);
- vi. Maintain link with other structures of the MoHCDGEC, PO-RALG and IPs so as to ensure effective communication, information sharing, and joint working on key issues across the health sector.

#### **d) Frequency of meetings**

The committee shall conduct meeting biannual or whenever necessary.

#### **e) National Steering Committee for Clinical Audit meetings**

- i. Meetings of the committee shall be called by secretary of the committee at the request of the committee chairperson;

- ii. Unless otherwise agreed, notice of each meeting confirming venue, time, date, and meeting agenda to be discussed shall be forwarded to each member of the committee not later than five (5) working days before the date of the meeting;
- iii. Supporting documents shall be sent to committee members and other attendees, as appropriate, at the same time;
- iv. Attendance register, minutes of the proceedings and resolution of the committee meetings should be documented.

### **2.1.2 Training Institutions and Zonal Health Resource Centre (ZHRC)**

The functions of the unit include:

- i. Support training of RHMTs and CHMTs on QI issues including clinical audit;
- ii. Provide technical support to RHMTs and CHMTs in matters related to clinical audit;
- iii. Participate in supportive supervision and monitoring of QI activities related to clinical audit whenever directed to do so;
- iv. Integrate the concept of clinical audit in training curriculum;
- v. Revise training curriculum based on identified gaps;
- vi. Provide CPD's to health workers and supportive staff.

### **2.1.3 National and Zonal Referral Hospital**

- i. Part of clinical audit team members depending on specific areas of specialization;
- ii. Support mentoring and coaching of clinical auditors and health workers' skills upgrading in identified gaps;
- iii. Provide technical support in development and review of standards;
- iv. Team of auditors from National Hospitals shall be responsible to audit Zonal and specialized referral hospitals, but also may be assigned to audit any level of the health facilities below;
- v. Team of auditors from Zonal & Specialized referral hospitals shall be responsible to audit Regional Referral hospitals, but also may be assigned to audit any level of health facilities below.

At this level, Health Management Team (Head of Technical Departments) of the National, Specialized and Zonal Hospital shall form a Clinical Auditing team that will be known as Internal Auditors within its jurisdiction. Therefore, Ministry shall request clinical auditors from this level to conduct auditing to the facilities within the Zonal and other lower facilities within the country.

### **2.1.4 Regional level**

At regional level, RHMTs will have the following roles and responsibilities:

- i. Identify health care workers with different expertise that can be included in the pool of regional and national clinical auditors based on stipulated minimum criteria;
- ii. Team of auditors from Regional levels shall be responsible to audit district hospitals, but also may be assigned to audit any level of health facilities below;
- iii. Identify priority areas in their respective regions that needs to be audited;
- iv. Coordinate clinical audit activities within their Region;
- v. Analyze root cause and review of clinical audit report from health facilities and provide follow-up of corrective action;
- vi. Compile clinical audit report and submit to MoHCDGEC and PO-RALG;
- vii. Reinforce the implementation of the policies, guideline and standards pertaining to clinical services;
- viii. Support training efforts for clinical auditors in their regions;

- ix. Provide technical assistance to CHMTs pertaining to implementation of clinical audit activities;
- x. Identify the key issues identified from the clinical audit that need to be addressed at the regional and national level;
- xi. Conduct meeting with different stakeholders at regional level to share best practices and challenges identified during clinical audit and provide way forward;
- xii. Oversee the implementation of recommendations provided by external clinical auditors from national or partners;
- xiii. Have a list of appropriate tools available to perform clinical audit.

At this level, Health Management Team of the Regional Referral Hospital shall form a Clinical Auditing team that will be known as Internal Auditors within its jurisdiction. Therefore, RHMT shall request clinical auditors from RRH to conduct auditing to the facilities within the regional.

#### **Members of the Regional Steering committee for Clinical Auditing:**

1. Regional Medical Officer.
2. Medical Officer In charge - RRH.
3. Regional Nursing Officer.
4. Clinical Services Coordinator at RRH.
5. Head of Health Quality Assurance unit - RRH
6. Hospital Health Secretary.
7. Regional Pharmacist.
8. Hospital Pharmacist
9. Matron/ Patron In charge at RRH.
10. HIMS Focal Person
11. Head of ICT at RRH.
12. Head of Unit Responsible for Social Welfare.
13. Medical Officer In charge of Private Hospital within the Regional (Member from APHFTA).

#### **2.1.5 Council level**

At council level, CHMTs will have the following roles and responsibilities:

- i. Identify health care workers with different expertise that can be included in the pool of council, regional and national clinical auditors based on stipulated minimum criteria;
- ii. Team of auditors from district levels shall be responsible to audit health centers, dispensaries and health posts;
- iii. Identify priority areas in their respective council that needs to be audited;
- iv. Coordinate clinical audit activities within their council;
- v. Analyze root cause and review clinical audit report from health facilities and provide follow-up and corrective action;
- vi. Compile clinical audit report and submit to regional level;
- vii. Reinforce the implementation of the policies, guideline, standards and criteria pertaining to clinical services at health care facility;
- viii. Support training efforts for clinical auditors in their council;
- ix. Provide technical assistance to HMTs pertaining to implementation of clinical audit activities;
- x. Work on, key issues identified from the clinical audit that need to be addressed at the council, regional and national level;

- xi. Conduct meeting with different stakeholders at council level to share best practices, challenges identified during clinical audit and provide way forward;
- xii. Oversee the implementation of recommendations provided by external clinical auditors;
- xiii. Have a list of appropriate tools available to perform clinical audit;
- xiv. Provide feedback to health facilities and community for follow-up of corrective action after clinical audit;
- xv. To oversee issues raised by community quality improvement teams.

At this level, Health Management Team of the Council/District Hospital shall form a Clinical Auditing team that will be known as Internal Auditors within its jurisdiction. Therefore, CHMT shall request clinical auditors from Council/District Hospital to conduct auditing to the facilities within the Council/District.

#### **Members of the Council Steering committee for Clinical Auditing:**

1. District Medical Officer
2. Medical Officer In charge at Council Hospital
3. Clinical Services Coordinator at Council Hospital
4. District Nursing Officer
5. Matron/ Patron In charge at Council Level
6. Head Quality Improvement Team - Council Hospital
7. Council Hospital Health Secretary.
8. District Pharmacist.
9. Council Hospital Pharmacist.
10. DHIMS Focal Person.
11. Head of Unit Responsible for Social Welfare - Council Hospital
12. Medical Officer In charge of Private Hospital within the District (Member from APHFTA).

### **2.1.6 Health Facility level**

#### **a) Hospital/Health Facility Management Teams (HMTs) at all levels**

In the implementation of clinical audit process, HMTs have the following roles and responsibilities:

- i. Identify key areas that needs to be audited in their facility and support auditors to perform internal clinical audit;
- ii. Use different data sources identified in guideline to plan and conduct internal auditing in different service provision point at the facility;
- iii. Develop schedule for carrying out clinical audit and enforce implementation;
- iv. Perform root cause analysis and reinforce implementation of different recommendations provided by team of auditors after clinical auditing activities;
- v. Provide resources to facilitate provision of clinical services based on stipulated guideline and standards;
- vi. Reinforce the implementation of policies, guideline and standards pertaining clinical services in their facility;
- vii. Oversee the implementation of recommendations provided by external clinical auditors;
- viii. Orient relevant staff on clinical audit process;
- ix. Include clinical audit activities in the facility annual operation plans;
- x. Share the complied clinical audit quarterly report to RHMT, CHMT and Staff in the relevant department;

- xi. Conduct mentorship and coaching sessions in different service provision points;
- xii. Identify best practices and challenges and share the health care workers in the audited department;
- xiii. Oversee the implementation of recommendations provided by external auditors;
- xiv. Archive tools selected by facility to be used for clinical auditing;
- xv. In cooperate Clinical Audit issues in quality improvement activities;
- xvi. Identify clinical audit team with expertise relevant to the topic to be audited including a member of QIT;
- xvii. Adopt approved tools from ministry of health and plan clinical auditing for selected topic.

#### **b) Work Improvement Team (WIT)**

In the implementation of clinical audit process, WITs have the following roles and responsibilities:

- i. Implement recommendations of clinical audit conducted by internal auditors and external auditors as presented to them by HMT;
- ii. Implementation of the policies, guideline and standards pertaining to clinical services in their respective department/section;
- iii. Share periodic report on the implementation of the recommended actions to HMT.

#### **c) Health care Workers**

In the implementation of clinical audit activities, health care workers have the following roles and responsibilities:

- i. Demonstrate commitment to ensure different clinical processes are conducted as per approved guideline and standards;
- ii. Implement recommendations provided by clinical auditors from different levels;
- iii. Identify and inform WIT barriers hindering provision of quality clinical practice in their respective clinical areas;
- iv. Participating in clinical audit activities;
- v. Document incidence or near misses in the incident book and report risk incidences to immediate supervisor to build up sources for clinical audit topic.

#### **NOTE 2: Special emphasis for National, Specialized, Zonal, Regional referral hospitals and Council hospitals:**

In addition to carrying out clinical audit for services provided in their respective facilities, National, Specialized, Zonal, regional referral hospitals and council hospitals should strive to become the center of excellence for other facilities in the region/council. Zonal Hospitals shall provide a learning center, mentoring and technical support to regional referral hospital. Also, in collaboration with RHMTs, the regional referral hospital shall provide a learning center, mentoring and technical support to council hospital and other hospitals at regional level in matters related to clinical audit. Similarly, the council hospital should provide the same to health centers dispensaries, community as well as other health Facilities in the council

#### **2.1.7 Implementing Partners (IPs)**

- i. Facilitate different clinical audit activities e.g. development of auditing tools, technical working groups;
- ii. Support the development of training materials for clinical auditing;
- iii. Support training of clinical auditors;

- iv. Support development of different clinical audit tools;
- v. Support actual auditing activities at facility levels.

### 2.1.8 Community

Health care services are set to meet community; therefore, client is solely responsible in evaluating and monitoring quality of care through their experience in using the facilities. Clinical audit at community level will depend on the existing Community Guideline. Communities are expected to:

- i. Share their experience of care through all possible means set by ministry of health including but not limited to uses of suggestion boxes, social welfare offices, Phone call or short message through social media;
- ii. Participate in clinical audit activities whenever requested to do so by clinical auditors;
- iii. Participate in dissemination meeting in which results of clinical auditing will be shared.

Reporting any health issues of public concern to the nearby health facility and higher level

#### **NOTE 3: Blood Transfusion Service at different levels**

Blood safety activities, especially blood collection and transfusion Services, are decentralized from National level to Zonal, Regional and Council levels. Each relevant authority should incorporate blood safety activities in their clinical audit plans in collaboration with the National Blood Transfusion. This will ensure safety of blood donors and improve availability and quality of blood and blood components.

## 2.2. ROLE OF QUALITY ASSURANCE/IMPROVEMENT DEPARTMENTS/UNITS/TEAM

2.2.1. Monitoring implementation and tracking of Patient Safety interventions (issues) in the hospital IPC in general and the Health care Associated Infections (HAIs)

- Medication Safety
- Patient Falls and Bed Sores
- Medical Errors Reporting System

2.2.2. Improvement of Patient Care Processes in the Hospital

- Care Outcomes
- SoPs for all Care Processes
- Discharging procedure
- Billing process

2.2.3 Monitoring Patient Experience of care

- Waiting time for services
- Triage in patient queues (including routine clinics)
- Staff Responsiveness

2.2.4 Addressing Patient Complaints

- Collection methods and their analysis and feedback to patients
- Establishing (where it is not available) an Ethics and Complaints Committee

### 2.2.5 Addressing Occupational Safety issues for Health Care Workers

- Ergonomics and Protective measures
- Regular assessment of work processes to identify those which affect staff safety and setting up interventions to address

### 2.2.6 Coordination and harmonization of QI approaches implementation in the hospital including 5S-KAIZEN-TQM; Health Improvement Collaborative; Standard-Based Management and Recognition (SBM-R)

### 2.2.7 Monitoring performance of WITs in departments and wards.

## 2.2 PRE-REQUISITES FOR CLINICAL AUDITORS

MoHCDGEC believes that clinical audit is a fundamental quality improvement initiative aiming at improving patient care and safety at all levels of health care system in Tanzania. For this reason, it's expected that all skilled health care professionals irrespective of their discipline to actively participate in organizing, supervising and carrying out clinical audit in health care industry in Tanzania and beyond.

For this objective to be met its critical for all skilled health care workers to have a broad knowledge of the subject of clinical audit and sufficient knowledge and skills on health care standards in their respective fields within the health care system in Tanzania. Clinical auditors are expected to have sound knowledge on health care standards, health policy, guidelines, local and internationally approved protocols, standard operating procedures, laws and regulation governing and safeguarding provision of health care services in Tanzania.

It's an obligation for each health care management to ensure all health care professional undergo competency-based mentorship/training to develop competences necessary to achieve the intended results of expected clinical audit.

### 2.2.1 Determining auditor competence to fulfill the needs of the clinical audit process

Apart from discipline specific knowledge, experience and skills, approved clinical auditors at any level of health care system in Tanzania should have skills in study design, data collection, computing and analysis.

The managers of health care system are solely responsible for identifying clinical auditor training needs and provide resources needed to facilitate their training.

#### Criteria/attributes will be used to select and evaluate members of internal or external auditors

1. Experience and knowledge of the relevant clinical audit criteria, principles, procedures and methods
2. Understanding the clinical audit tools
3. Knowledge of National recommendations and requirements of specific practice/area to be audited

|                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------|
| 4. Understanding of specific guidelines, standards and policies for different clinical services                            |
| 5. Understanding risk specific clinical audit                                                                              |
| 6. Communication skills (e.g. interviews, writing and speaking swahili and english.).                                      |
| 7. Ethics responsibility and conflict management                                                                           |
| 8. Strong analytical and organizational skills                                                                             |
| 9. Ability to maintain confidentiality and adherent of profession code of conduct                                          |
| 10. Ability to work independently or in a team environment                                                                 |
| 11. Experience and knowledge of the relevant standards and health care systems.                                            |
| 12. Knowledge of applicable legislation and other requirements such as good practice guidance and contractual arrangements |

### 2.2.2 Competence and evaluation of auditors

Each institution should have clinical audit mentor who undergone competence-based training. Competence of clinical auditors' mentor for different clinical practices/areas will be evaluated based on the following criteria:

| CRITERIA                                                             | SCORE |        |        |      |
|----------------------------------------------------------------------|-------|--------|--------|------|
|                                                                      | <80%  | 80-89% | 90-99% | 100% |
| Attendance (classroom, group activity, audits, etc.)                 |       |        |        |      |
| Pre-training assessment score                                        |       |        |        |      |
| Understanding of specific terminologies based on areas to be audited |       |        |        |      |
| Understanding of key practices of specific area to be audited        |       |        |        |      |
| Understanding of the clinical audit techniques and requirements      |       |        |        |      |
| Familiar with the clinical audit tools                               |       |        |        |      |

|                                                                                                                                               |                |                          |                                                                                                                                              |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--|
| Ability to use the electronic tool/understand the importance of proper data management for clinical audits                                    |                |                          |                                                                                                                                              |  |
| Ability to conduct a clinical audit (during training -practical session) and accurately summarize findings as well as provide recommendations |                |                          |                                                                                                                                              |  |
| Active participation during training                                                                                                          |                |                          |                                                                                                                                              |  |
| Completion of homework and assignments                                                                                                        |                |                          |                                                                                                                                              |  |
| Post-training assessment score                                                                                                                |                |                          |                                                                                                                                              |  |
| <b>COMMENTS:</b>                                                                                                                              |                |                          |                                                                                                                                              |  |
| <b>RECOMMENDATIONS:</b>                                                                                                                       |                |                          |                                                                                                                                              |  |
| <b>COMPETENCY LEVEL</b>                                                                                                                       | <b>Level 1</b> | <input type="checkbox"/> | Potential lead clinical auditor and trainer. Ready to facilitate and conduct auditing                                                        |  |
|                                                                                                                                               | <b>Level 2</b> | <input type="checkbox"/> | Still needs more development as an auditor and trainer – should work under the guidance of more experienced auditors and trainers            |  |
|                                                                                                                                               | <b>Level 3</b> | <input type="checkbox"/> | Does not have good audit and training skills, but understand the specific clinical audit-training package well and has interpersonal skills. |  |
|                                                                                                                                               | <b>Level 4</b> | <input type="checkbox"/> | Cannot teach or conduct clinical auditing; may be able to assist with logistic support during training or audit                              |  |

## **2.3 ENABLING ENVIRONMENT TO SUPPORT THE DELIVERY OF CLINICAL AUDIT**

For clinical audit to be effective it requires proper enabling environment that includes:

### **2.3.1 Health care worker's commitment**

Clinical audit requires commitment of individual health care workers and should be recognized as a valued activity of national priority. Health care workers need to implement recommendations provided during clinical auditing and maintain proper clinical practices.

### **2.3.2 Management support**

Management teams at different levels should support clinical audit activities by training staff on how to carry out clinical auditing and provide resources required for the proper implementation of clinical audit. Management should take clinical audit as part of overall quality improvement process; hence observations, findings and results should not be used for disciplinary actions, rather for learning and problem solving for better outcome.

### **2.3.3 Health Policy, Guideline and standards**

Health policies and Health Sector Strategic Plan IV support clinical audit activities in Tanzania. It's important to have relevant approved guideline and standards to support clinical audit in area to be audited. This guideline directs all hospitals to have Annual Clinical Audit Manuals and local standards operating procedures approved by Hospital Boards and/or Hospital Management.

### **2.3.4 Access to information**

Access to reference materials, data sources such as MTUHA, medical records, electronic HMIS, incidence reports, output/outcome indicators, internal/external performance rating and communities' responses are valuable resources to facilitate clinical audit activities.

### **2.3.5 Training and Orientation**

Training and orientation of health care workers on audit cycle is fundamental for effective implementation of clinical audit activities at all level. Additionally, it is instructed to prepare Trainers for Trainees (ToTs) at all levels to train others.

### **2.3.6 Financial Resources**

Clinical audit is part of routine activities of quality improvement at each health care level; hence its budget has to be reflected in the facility/institutional strategic plan and annual operational plan.

### 3. PROCESS FOR CONDUCTING CLINICAL AUDIT

Clinical Audit is the systematic way which involves number of stages that aim at improving patient care. The process of clinical audit consists of five stages presented in the circular format (Figure 2 refers):

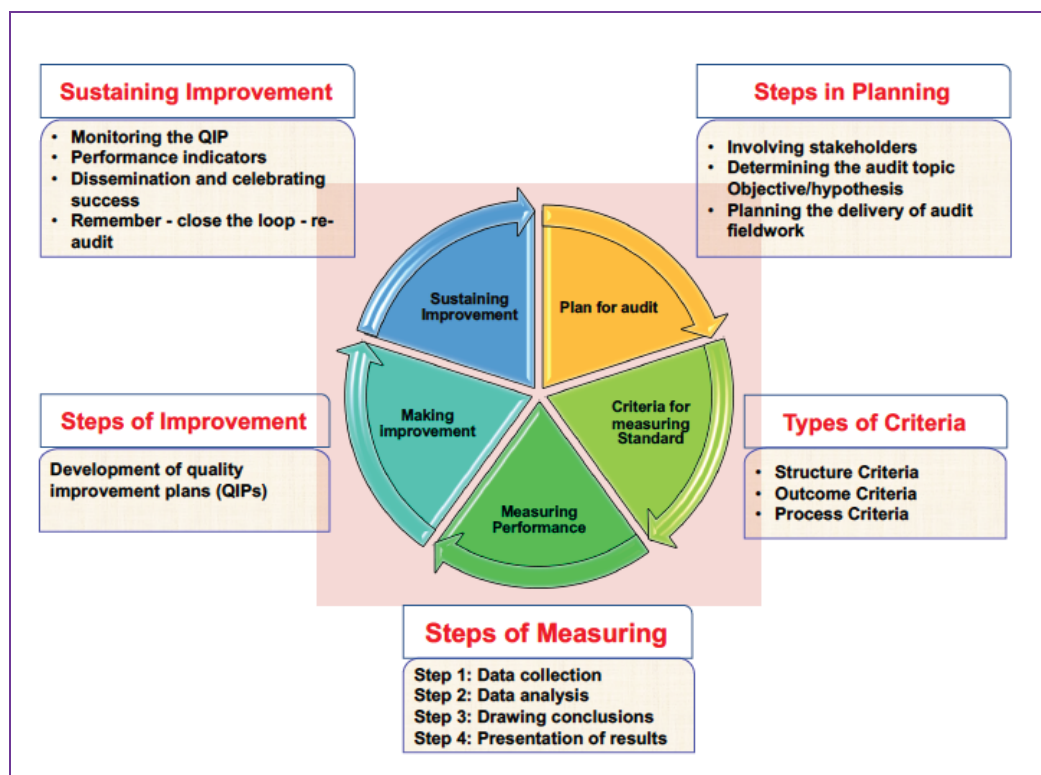


FIGURE 2: Process of Clinical Audit

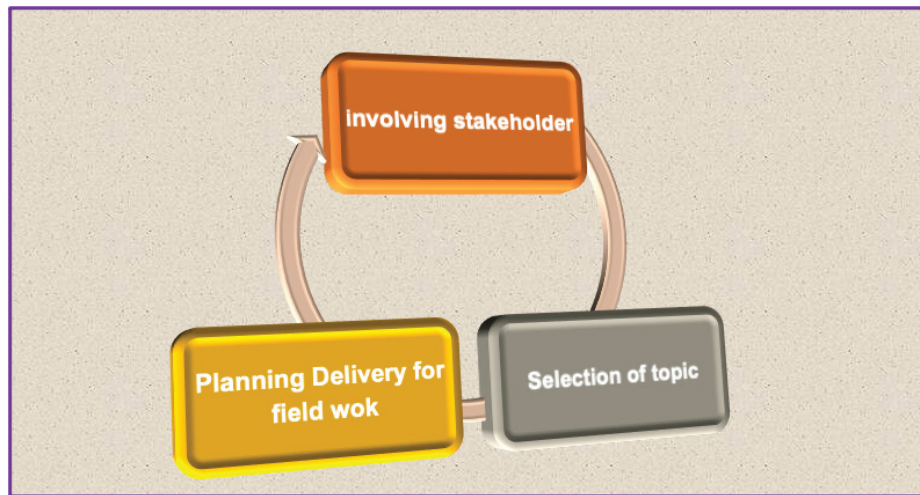
#### 3.1 PLANNING FOR CLINICAL AUDITING

Consider the following before planning for clinical audit

Before participating in any clinical audit, all those involved must have a clear understanding of meaning and the process of clinical audit. Establishing this understanding must precede any audit planning measures.

Clinical Audit forms the system for improving standards of clinical practice. Aspects of patient care are evaluated against expected standards of care and where necessary, changes are made at an individual, team or service level. A re-audit can then be used to confirm that improvements have been effective.

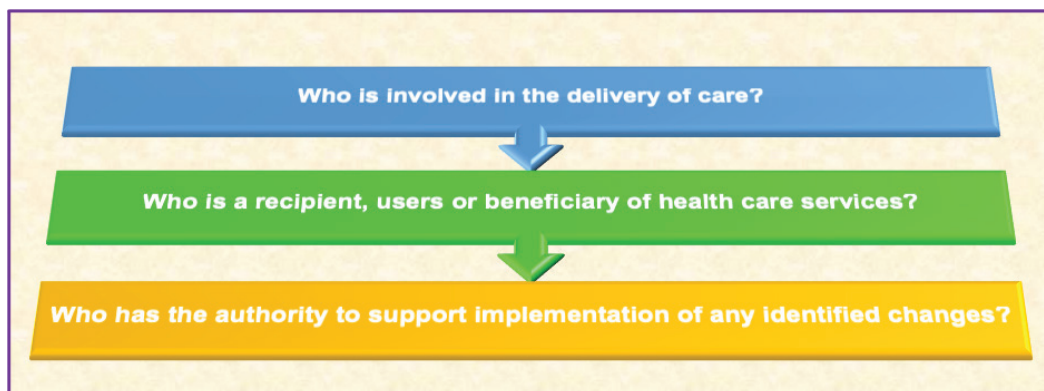
In order to conduct clinical audit, it requires effective planning and preparation, the extent of planning and preparation will depend on the specific circumstances of each audit. And also make sure the audit committee is available and ready.



**FIGURE 3 Steps involved in planning of Clinical Audit**

### 3.1.1 Involving Stakeholders

In this guideline, the term stakeholder includes patients and other service users, members of the group and organization that represent their interest (Anyone involved in providing or receiving care). The process of involving health care providers' and users' experience/ comments should be the first step in planning for the clinical audit. Hence the selection of who should be involved in deciding the topic and objective of the audit, it is proposed to identify the following.



**FIGURE 4: Involving Stakeholders**

#### 3.1.1.1 Delivery of care

The support of those involved in the delivery of care and their commitment to participate is essential for any audit, the specific responsibilities of all those involved should be clarified and agreed before the audit commences. Most clinical practice involve multi-professional teams that covers the practice of different clinical and managerial disciplines that contribute to the relevant audit topic area. When preparing for clinical audit, agreement on leadership and ownership of the audit should be reached as well as responsibility for the management of audit results and recommendations. Where possible, all those involved in the audit should be supportive of and committed to change(s) shown to be necessary by the audit results and recommendations arising.

### **3.1.1.2 Recipient, users or beneficiary of health care services**

As far as this guideline is concerned user may include clients/patients who seeks medical care, patient's relatives, any organization seeking care for their staff and health care providers.

When planning any clinical audit, the audit team should consider the possible benefits of including service users' experience/comments in the clinical audit process.

Common methods of including service users in the clinical audit process are:

- i. Gathering service user feedback, for example letters of complaint;
- ii. Analysis of comments made at service user forums;
- iii. Interview with service users;
- iv. Service user surveys;
- v. Focused group discussion;
- vi. Expert user groups;
- vii. Examining critical incidents.

### **3.1.2 Selecting the clinical audit topic and define purpose**

Selecting a topic for clinical audit needs careful thought and planning, because any clinical audit needs a significant investment of resources. The clinical audit team has an important role in prioritization clinical audit topics, and the following questions may be useful for discussion guide:

- i. Is the topic of concern: (high cost, volume, and risk to staff or users?)
- ii. Is there evidence of a serious quality problem, for example patient complaints or high complication rates?
- iii. Is good evidence available to inform standards, for example systematic reviews or national clinical guideline?
- iv. Is the problem concerned amenable to change?
- v. Is the topic pertinent to national policy initiatives?
- vi. Is the topic a priority for the organization?
- vii. Is the problem an area of local concern?
- viii. Is there a wide variation in practice? Is there a risk management issue?
- ix. What is the level of institution/organisation?
- x. What is the level of education/skills of health care providers involved in care?

When all the various sources have been considered, the topics suggested need to be prioritized in a systematic way. It is important to ensure that the views of users, clinical staff, support staff, and managers are represented in the selection process. A scoring system could help to rank topics in order of importance, such as quality impact analysis or a locally developed grid listing, selection criteria and ranking topics accordingly. The purpose of clinical audit is geared to improve quality of care and hence generated hypothesis or specific objectives should be addressed in that context. The following series of verbs may be useful in defining the aims of an audit<sup>27</sup>

- a) To improve;
- b) To enhance;
- c) To ensure;
- d) To change.

Examples of using these are:

- a) To improve the blood transfusion;
- b) To increase the proportion of patients with hypertension whose blood pressure is controlled;

- c) To ensure that every infant has access to immunization against diphtheria, tetanus, pertussis, polio and meningitis before 6 months of age.

Likewise, classification system of structure, process and outcome can be used to focus on areas of practice from which a topic may be selected.

### **Structure includes**

- i. Resources required to deliver care;
- ii. Environment in which care is delivered;
- iii. Facilities made available (e.g. availability of single rooms);
- iv. Equipment made available (e.g. resuscitation equipment);
- v. Documentation of policies, procedures, protocols and guidelines.

### **Process includes**

The procedures and practices implemented by staff in the prescription, delivery and evaluation of care – these may be specific to the clinical process or service administrative processes.

### **Outcome includes**

The effect of care received by service users as a result of health care provision and the costs to the service of providing care i.e. the result of clinical interventions.

### **3.1.3 Planning the delivery of audit fieldwork**

Identifying the skills and people needed to carry out the audit

For a clinical audit to be successful and achieve its aim and purpose, it needs to involve the right people with right skills from the beginning. Therefore, identification of skills required and of individuals possessing these skills should be a priority. Among the required skills are;

- i. Leadership, organizational and management skills;
- ii. Clinical, managerial and other service input and leadership;
- iii. Project management skills;
- iv. Change management skills;
- v. Audit methodology expertise;
- vi. Understanding of data protection requirements;
- vii. Data collection and data analysis skills;
- viii. Facilitation skills;
- ix. Communication skills;
- x. Interpersonal skills.

The skills outlined should be drawn from all relevant groups involved in the delivery of care. Depending on the nature of the topic that is being audited, the audit team should be multidisciplinary. To achieve the best possible results, all relevant staff groups should have a degree of involvement in the performance of the clinical audit and in the implementation of a sustainable continuous improvement programme. For a clinical audit to be delivered effectively, all staff should be appropriately trained and briefed with regard to their role. All team members should have:

- i. A basic understanding of clinical audit;
- ii. An understanding of and commitment to the plans and objectives of the clinical audit;
- iii. An understanding of what is expected of the clinical audit team – this needs to be clarified at the beginning and may be expressed in a terms of reference document.

## 3.2 SETTING CRITERIA

After completing selection of the topic, the next stage will be to review the available evidence to identify the standards and clinical audit criteria against, which the standards will be measured. Standards should be robust, evidence based, local or international and have been approved or officially adopted by the MoHCDGEC. The standard is measured using well-selected criteria. The criteria are used to measure structural, process and outcome of the service:

- i. Structured criteria refer to resources that are required to deliver care, including the numbers of staff and skill mix, updated knowledge, skills and attitudes, materials and drugs, equipment and physical space;
- ii. Process criteria refer to the actions and decisions taken by health care professionals together with users and include communications, assessments and prescription of surgical and other therapeutic interventions. The importance of process criteria is determined by the extent to, which poor design and/or non-adherence with processes in place influences quality of care;
- iii. Outcome criteria refer to the expected outcomes of care. Increasingly the measurement of outcomes of care is being seen as the most appropriate measure of effectiveness.

Therefore, for the criteria to be valid and lead to improvements in health services delivery, they should be consistent with SMART guidance:

- i. Specific (explicit statements, not open to interpretation);
- ii. Measurable;
- iii. Achievable (of a level of acceptable performance agreed with stakeholder);
- iv. Relevant (related to important aspects of care);
- v. Theoretically sound or timely (evidence based).

Usually the degree of compliance with the audit criteria is expressed in percentage or proportion of cases.

### 3.2.1 How to Select and develop appropriate performance levels

The criteria to be audited should consist of measurable statements of what should be happening with explicit and quantifiable performance levels. In order to set clear target for compliance audit team should have enough time for discussion with relevant stakeholders where consensus should be reached and must have benchmarking against national rate. While setting targets three factors should be considered, these include: clinical importance, practicability and acceptability. The expected level of performance or target can range from 0% (criterion is something that must never be done) to 100% (Criterion is something that must always be adhered to)

### 3.2.2 Clinical Importance

Where a criterion is critical to the safety of service users, targets may be set at 100% or 0%, for example, a clinical audit relating to safe administration of medication could have a target of 100% for the following criterion 'medication is not administered to a service user with a known allergy to the medication'.

### 3.2.3 Practicability

However, where clinical importance is not as significant, resources required to fulfil the target performance level should be considered and an acceptable performance level (one, which is seen as both reasonable and attainable by those delivering and receiving care) should be

identified, for example, in a clinical audit relating to the time frame within, which service users should be seen in a particular outpatient clinic, a target of 90% may be deemed appropriate.

### 3.2.4 Acceptability

An optimum level of performance is set when the best care possible is identified given the resources available and normal conditions of care-giving. This will lie somewhere between the minimal acceptable level of care and the highest possible level of care (possible under ideal conditions, with no restrictions on resources).

### 3.2.5 Inclusion/exclusion criteria

In order to ensure that the audit sample is representative of the target population and to collect data, which is fit for purpose, it is necessary to define what information should be collected and what information should not be collected.

## 3.3 MEASURING PERFORMANCE

This stage may be described in the following four steps:

- i. Data collection;
- ii. Data analysis;
- iii. Drawing conclusions;
- iv. Presentation of results.



**FIGURE 5: M&E Path flow**

### 3.3.1 Data Collection

Identification of relevant data is the key to ensure efficient, effective and accurate data collection process for clinical audit. A well-structured approach is needed to identify type of data that will enable the audit team to compare practices against an audit standard.

Each clinical audit use one or combined or all of the following methodology:

- Observation of practice
- Patient's documents review and other relevant documents such as available national guideline, SOPs used by the hospital, internal clinical quality reports, board report/ HMT reports, etc
- Physical check
- Interview of staff and patients /clients
- Photo taking

**For data to be relevant it should:**

- 1) Answer the objective(s) of the audit;
- 2) Ensure data items are adequate; i.e. avoid under or over-inclusion;
- 3) Have specific data source that was agreed by the team, before starting audit process;
- 4) Ensure data collected are accurate and complete for an audit to draw a valid conclusion;
- 5) Draw data from routinely collected information such as patients' case notes, routine clinical records, HMIS and/or observation of services. These are considered to be cost effective as they don't allow duplication of work, less effort needed to retrieve and easy to re-audit;
- 6) Have minimal errors as possible. Errors may be due to missing data, inappropriate responses or incorrect source of data.
  - Identify and orient data collectors on all important skills needed for data to reflect reality on the practice

**3.3.2 Data Analysis**

During data analysis, the observed or collected data will be translated into useful information that describes how current practices comply with the set standards on audited area. Analysis starts during data collection by organizing data in the manner that it is easy to interpret findings, for example by grouping data or enquiring more explanations to supplement for observed trends of events etc.

**Important steps to observe during data analysis:**

- 1) Check for patterns or trend on the data sets;
- 2) Review if there is any error or missing data;
- 3) Make a simple, clear and concise analysis which can be easily understood by all stakeholders;
- 4) Use charts, graphs or tables to simplify presentation of findings;
- 5) Use of percentage on calculating level of compliance is the most useful way of presenting results;
- 6) Descriptive statistics can also be used to describe findings of the audit process. Only simple descriptions on the distribution of data such as the mean or average, median, mode and measures of dispersion (range and standard deviation) are recommended. Advanced statistical analysis can be used but it is not recommended;
- 7) Results can be broken down to wards, professions etc. depending on the needs;
- 8) Procedures done to analyze data should be recorded clearly to ensure that any necessary re-audit/recalculation repeat the same methods for results to be compared.

### 3.3.3 Drawing Conclusion.

#### **For conclusion to be useful the audit team must:**

- 1) Understand the reasons for failure to comply with standards;
- 2) Understand the root cause for failure using standard ways/methods e.g. Fishbone diagram, 5 WHYs, process mapping etc.;
- 3) Identify and agree on the areas for improvement;
- 4) Make recommendations from the conclusion and understanding of root cause drawn from any standard methods (5 WHYs, fishbone etc.)

Conclusion is made after analysis on the results and understanding the cause of noncompliance observed during data collection.

### 3.3.4 Presentation of results

Results should be shared with all stakeholders; however, the team must be aware of some sensitive issues that need to be discussed with appropriate person or authorities. The clinical audit report must be sent to MoHCDGEC - HQ.

#### **Results can be presented as:**

- 1) Verbal report in which findings are summarized and presented in a meeting
- 2) Written report
  - Visual reports where charts, graphs etc. can be presented;
  - Descriptive report in which detailed information of findings can be presented.

## 3.4 MAKING IMPROVEMENT

The purpose of performing clinical audit is to assess the degree to which the clinical services offered comply with the accepted evidence-based standard practice (adopted/approved by the MoHCDGEC).

Clinical audit results may show:

- a) Areas of excellent or “notable practice”
- b) Areas for improvement

### 3.4.1 Areas of excellent performance/ Notable practice

These are areas of clinical practices in which compliance to standard is optimal. Recommendations of clinical audit reports should clearly state the sustainability of these areas. Therefore, these areas need to be acknowledged by the clinical audit team and provide feedback to stakeholders.

### 3.4.2 Areas for Improvement

These are service areas where required standards are not met and hence changes need to occur. There are three channels for changes to be implemented;

- i. Serious non-compliance by individuals should be communicated through clinical audit team leader who should discuss with the facility in-charge/Head of section for individual support.

- ii. For the non-conformity leading to the highest risk, follow the same mechanisms as in (a) above and address it through risk management protocol.
- iii. Other non-conformity that may need to be discussed prioritized and addressed within existing management system.

### 3.4.3 Process of making changes following clinical audit

Compile report and share with the relevant stakeholders within 30 days. During the feedback meeting, the team must give recommendations on how changes can be initiated and monitored. The team and stakeholders should discuss best ways on how to implement those changes after reached consensus on the most feasible approaches depending on the local needs and capacity. They must identify critical areas that need to be improved and set priorities for action, and these areas should be clearly documented and included in Quality Improvement Plans (QIPs). The QIPs developed should then be incorporated into existing management systems including involving other authorities during implementation whenever necessary.

Good clinical audit must drive changes to address problems through the following steps.

- i. Discuss findings and interpret results;
- ii. Seek clarification on the concerns raised during the exercise;
- iii. Evaluate issues that pose highest risks that may cause potential danger or threat to individuals, systems or outcome of service provided;
- iv. Communicate serious non-conformity and high-risk issues to health facility In charge for immediate action.

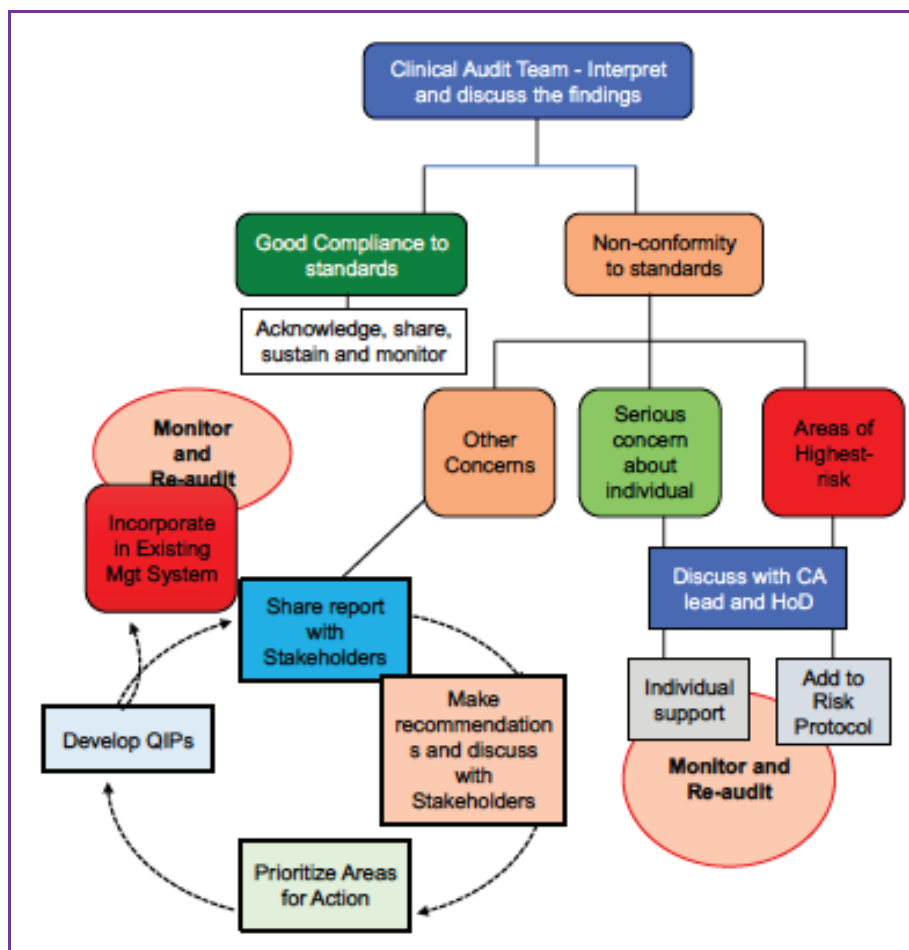
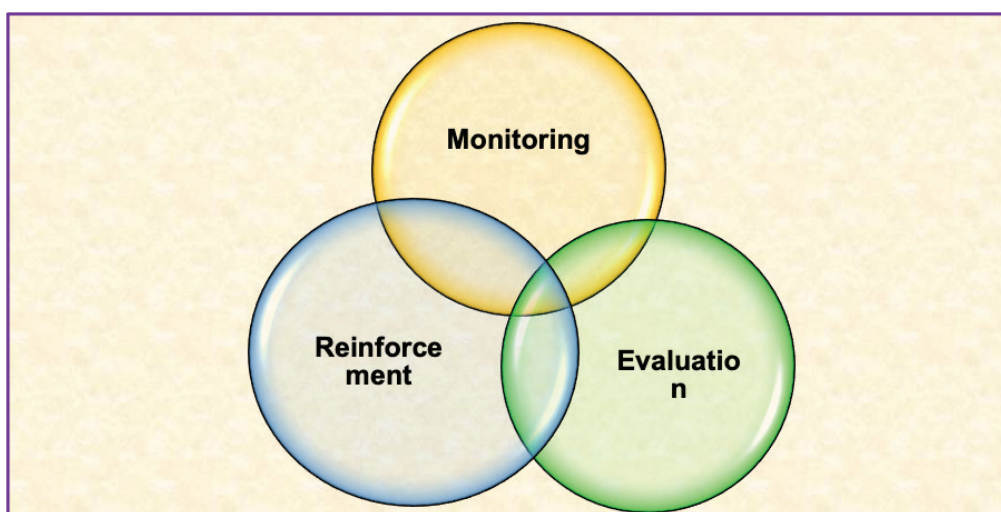


FIGURE 6: Process of making Improvement

### 3.5 SUSTAINING IMPROVEMENT

To sustain improvement plans introduced after clinical audit is very important process and essential in clinical audit. To ensure changes are maintain the following steps need to be observed.



**FIGURE 7: Sustaining Improvement**

#### **Step1: Monitoring and evaluation of the proposed QIPs**

After introducing changes, it is recommended to monitor and evaluate progress made within the agreed time intervals. The procedures include identifying few indicators to be monitored and systematic ways of analysing progress made to sustain those changes. Only the minimum number of essential indicators should be Included in monitoring. These key indicators to monitor implementation of the quality improvement plans are termed as performance indicators. If the performance targets have not been reached during implementation, modifications to the plan or additional interventions will be needed. These indicators also need to be “SMART”.

#### **Step 2: Maintaining and reinforcing improvement**

Maintaining and reinforcing improvement over time is a complex process. To achieve this, it requires understanding and commitment of all key stakeholders to engage in audit process including implementation and maintenance of changes recommended during audit exercise. Some of the proposed strategies to ensure changes are maintained may include:

- i. Reinforce or motivate staffs for doing clinical audit regardless of the outcome of the audit exercise. This will help users and beneficiaries of services to build the culture on self-evaluation and engage on steps of quality improvement activities;
- ii. Integrate Clinical Audit into the organization's wider quality improvement systems;
- iii. Strengthening leadership and improve participation of all key stakeholders on quality improvement activities;
- iv. Use collaborative approach to design QIPs and best approaches to implement and maintain. By communicating mission, visions or intended target for the proposed changes will increase likelihood of the individual or systems to have sense of ownership and strive to support improvement plans.

### **Step 3 Monitoring compliance with the Clinical Audit guideline**

The Clinical Audit Team is responsible for monitoring the progress of the clinical audit activity. Performance updates will be reported monthly within:

- i. HMT/CHMT/RHMT/ MoHCDGEC, PO-RALG monthly meetings;
- ii. Quality Assurance/Improvement meetings;
- iii. The facility clinical meetings on weekly basis;
- iv. Departmental meetings/dashboards/reports and accountability meetings.

Where the review identifies deficiencies, an action plan will be developed by the Facility Audit Lead and Clinical Audit Team with named leads and timescales identified. Progress with implementation will be monitored at subsequent Clinical Audit Group meetings.

A summary of the key findings will be reported either biannually or annually to the HMT and later to the facility governing committee or board. At the National level, database of all facilities implementing clinical audit will be established. The existing system of HMIS will be fed with the key findings generated by each facility and monitored by the developed performance indicators at National level. Among the other duties of the M&E unit in the Department of Policy and Planning is collecting, analyzing and publishing reports on clinical audit.

## 4. ETHICAL CONSIDERATION AND LEGAL FRAMEWORK ON CLINICAL AUDIT PROCESS

### 4.1 ETHICAL ISSUES

Ethics is the inquiry into the morality of an action. There should be consideration of ethical principles in relation to all aspects of clinical care including clinical audit. Clinical audit must always be conducted within the following ethical boundaries:

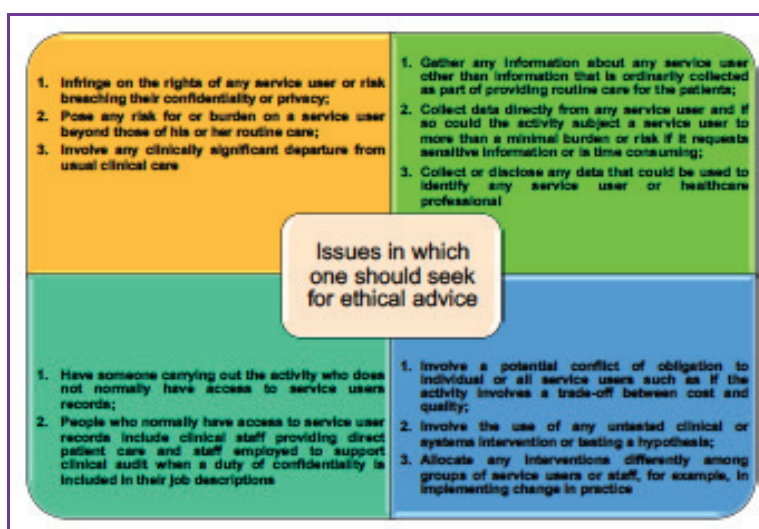
- i. Clinical audit should be conducted after informing the facility authorities and member of staff whose work is to be audited;
- ii. Clinical audit should benefit service users without causing harm;
- iii. All those whom the audit will directly affect should be informed of and if possible, involved in the audit;
- iv. Clinical Audit should consider the existing professional code of conducts and adhere with country's legal framework.

#### 4.1.1 Confidentiality

It is important to remember that clinical audit reports and presentations should not identify service providers by name unless the people concerned have agreed to this. Legislation around data protection and service user record confidentiality must be complied with when performing clinical audits. Therefore, data obtained during the process of auditing must not be used for other purposes than improving service at the facility level or higher level for policy formation and not for academic purposes or research. While encouraging participation for improvement purposes, the auditing team should also state that patients are under no obligation to take part in the audit and that declining to take part will not affect their care in any way.

Clinical audit process as defined early is not a research. The clinical audit teams have to follow code of ethics and other relevant guidelines and standards during the whole process of auditing to ensure that the intended objectives are fulfilled without affecting the quality of care to the client/patient and health provider at a particular health facility.

This guidance assumes that audit never involves disturbance to the service user beyond that required for normal clinical management. If the clinical audit team is concerned about the ethical issues regarding auditing, then ethical advice should be sought.



**FIGURE 8: Issues of Confidentiality**  
Source: Adapted from Dixon, N. (2009b)

### 4.1.2 Data protection

Use of personal data in the health care setting during clinical audit should adhere to laws and regulations as stipulated in section 4.2. Issues to consider for proper management of collected information include:

**a) Use a unique identifier in data collection;**

In order to comply with the Data Protection Act and to ensure patient anonymity, personal details, including hospital ID number, name, address, date of birth etc. should not be recorded on the data collection form. The best approach is to number each of your forms using a unique identifier;

**b) Use of code sheet to link unique identifier to patient's hospital number**

A separate piece of paper, or 'code sheet' should then be kept as a key, which links each unique identifier to the patient's hospital number. Without this list, data collection forms cannot be linked to specific patients. The code sheet (key) would need to be destroyed when the audit analysis is complete. This also applies to data held on databases. Occasionally it might be necessary to record patient identifiable information on the data collection form. For example, during a prospective data collection exercise the data collection form might have to follow a patient through their pathway of care. In this instance, the only patient identifiable information that should be recorded on the form is their hospital ID number. Name, date of birth, etc. should never be recorded;

- c) Ensure data is adequate, relevant and not excessive: Confirm that data being collected for the stated purpose of clinical audit rather than research or other service improvement activities and collect only the data you need to answer your audit objectives and standards, bearing in mind the 'adequate, relevant and not excessive';
- d) Securer data: This relates to both electronic and hard copy data. Any patient identifiable clinical audit data must be kept securely. Audit forms should be locked in a filing cabinet, electronic files should be password-protected or kept on a secure, restricted access server and ensuring that only clinical professionals with a duty of confidentiality are able to access the data. Person identifiable information should not be stored on personal laptop computers or e-mailed to non-authorized persons. Situations should be avoided that might allow public access to personal data;
- e) Data should not be kept for any longer than necessary: Remember to destroy completed audit forms once an audit has been completed. Double-check with other members of the audit team first though and make sure you have kept enough summarized data to allow comparison with any re-audit data you may collect in future.

## 4.2 LEGAL FRAMEWORK

There are various laws and regulations relevant to the clinical audit process. These may pertain to the use and confidentiality of personal information as well as wider ethical issues. The clinical audit team should abide by these laws and regulation to avoid unnecessary litigation measures. Some of the laws and regulations in Tanzania legal framework are:

- a) The Constitution of the United Republic of Tanzania (1977).
- b) Public Service Code of Conduct;
- c) Public Service Act 2002;
- d) The Cyber - crime Act 2015;
- e) Health Professional codes of conduct;

Details of the above-mentioned legal documents are described in Annex 1.

### 4.3 PRINCIPLES OF ETHICS AND CODE OF PROFESSIONAL CONDUCT

Clinical auditors should observe Principles of Ethics and Code of Professional Conduct for medical professionals in Tanzania, including being but not limited to the following:



FIGURE 9: Ethics and Code of Professional Conduct

The Code of Professional Conduct shall apply to all clinical and medical practitioners both public and private sectors while carrying out clinical audit. Specific audit principles include:

- i. Respect for humankind and life;
- ii. Maintain professional competence;
- iii. Be trustworthy and exercise fairness;
- iv. Collaborate with other and act as a part of the team;
- v. Protect confidential information;
- vi. Exercise responsibility and good stewardship;
- vii. Promote transparency and accountability;
- viii. Discharge duties with integrity;
- ix. Maintain political neutrality.

*Code of Ethics and Conduct for the Public Service in Tanzania, Nurses and Midwife's Council and Code of Ethics and Professional Conduct for Medical and Dental Practitioners' in Tanzania, 2017, 2005 respectfully*

## 5. ANNEXES

### ANNEX 1: Different Act in relation to Clinical Audit

| No | Act                                  | Description in relation to Clinical Audit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | The Cybercrime Act 2015              | <p>The Act is referred as An Act to make provisions for criminalizing offences related to computer systems and Information Communication Technologies; to provide for investigation, collection, and use of electronic evidence and for matters related therewith. Therefore, issues of illegal interference and data management have to be adhered during the process of clinical auditing. Part II of the Act stipulate related Offences and Penalties in regard to the Informational Technologies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. | Health Professional codes of conduct | <p>Professional Codes guiding health practices in the Tanzania. For-example clinician and Nurses have Code of Ethics and Professional Conduct, which must be adhered when delivery of care to clients that are; Medical and Dental Practitioners' in Tanzania (2005), Nurses and Midwives in Tanzania, (2015).</p> <p>The Principles of Ethics and Code of Professional Conduct for medical and dental practitioners in Tanzania are therefore epitomized and herein presented into five cardinal principles namely:</p> <ol style="list-style-type: none"> <li>1. Beneficence that requires practitioners to do good,</li> <li>2. Non-maleficence that requires practitioners not to do harm to their clients,</li> <li>3. Autonomy that emphasises respect for the client's informed choices and consent,</li> <li>4. Justice, which puts obligation on practitioners to act fairly, and</li> <li>5. Veracity and Fidelity, which demands truthfulness and royalty in the practitioner's actions.</li> </ol> <p>Likewise, Principles of Ethics and Code of Professional Conduct for Nurse and Midwives that have to be adhered during delivery of care to clients are as follows:</p> |

|    |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                        | <ol style="list-style-type: none"> <li>1. Respect for humankind and life;</li> <li>2. Obtain consent before you provide care;</li> <li>3. Maintain Professional Competence and Advancement;</li> <li>4. Take responsibility and be accountable for your acts;</li> <li>5. Be trustworthy and exercise fairness;</li> <li>6. Collaborate with other and act as a part of the team;</li> <li>7. Protect confidential information.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3. | Public Service Code of Conduct                         | <p>Public Servant practices regardless of their profession are supposed to adhere to the principle introduced by the government to ensure that citizen receive quality services as intended. There the public service Code of Conduct explained that for the Public Service to be efficient and respected Public Servants must behave and conduct themselves in a manner as stipulated below:</p> <ol style="list-style-type: none"> <li>1. Respect all Human Rights and be courteous;</li> <li>2. Perform diligently and in a disciplined manner;</li> <li>3. Promote teamwork;</li> <li>4. Pursue excellence in service;</li> <li>5. Exercise responsibility and good stewardship;</li> <li>6. Promote transparency and accountability;</li> <li>7. Discharge duties with integrity, and</li> <li>8. Maintain political neutrality.</li> </ol> |
| 4. | The Constitution of United Republic of Tanzania (1977) | <p>The Right to Privacy and personal Security as stipulated under the Article 16 (1-2) of the constitutional have to be adhered during clinical auditing process. Subsection 2 provides for the formulation of legal procedure to protect privacy, which health sector elaborated them in various guideline and protocol of care.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## ANNEX 2: Written Report Format

An audit report outlines the steps taken to complete the audit. It does not have to be lengthy or complex. The report should be shared within two weeks. Always ensure you include the following information:

| S/No | Title              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Cover sheet        | Include the audit title, service under audit, date of audit, Audit Lead and team and the ministry if public facility and organization logo                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.   | Introduction       | Include a paragraph about the service being audited; identify the target group and its role within the Trust. The introduction should also provide background information covering the issues that have led to the audit being carried out, such as national interest, local priority and national service framework. Also includes details about why the audit was undertaken and, which standards where applied.                                                                                                                                                                              |
| 3.   | Aim and Objectives | <p>Aim – the purpose of the audit - what the audit is intended to achieve</p> <p>Objectives – the objectives breakdown the overall purpose (aim) into more detailed and specific components.</p>                                                                                                                                                                                                                                                                                                                                                                                                |
| 4.   | Standards          | Include a list of the standards of expected practice against which the audit compared current practice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5.   | Methodology        | Explain how you approached the audit, the steps you took to get your results and a description of the methods used. This section includes details of how you collected your data, such as from clinical notes, computer systems, and individual patients, and the tools used to collect the data, such as questionnaires or telephone interviews. Details of who analysed the data, whether an external agency was used or if the clinical audit team carried out the necessary analysis will also be included. Copies of data collection sheets or questionnaires must be included as annexes. |
| 6.   | Size and Scope     | <p>This section includes:</p> <ol style="list-style-type: none"><li>1. Who was involved in the audit?</li><li>2. Sample sizes or exclusions</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|     |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                    | <ol style="list-style-type: none"> <li>3. Target group of patients</li> <li>4. Time period in, which the audit was undertaken.</li> <li>5. If questionnaires were involved include the distribution numbers, as a whole and per locality.</li> </ol>                                                                                                                                                                                                                                                                                    |
| 7.  | Results            | <p>This section presents the results of the data analysis, often in graph or table form. They should be easy to read with a summary of the analysis under each section if needed.</p> <p><i>Response rates</i> and any deficiencies in the data are highlighted in this section. Data analysis should focus on finding out if the standards have been met, identifying areas for improvement and observing any trends that may assist in implementing improvements.</p>                                                                 |
| 8.  | Findings           | <p>The findings should be presented in a way that indicates the achievement of each of the listed standards. Under each graph, it may be useful to provide in text the key facts that can be drawn from each graph or table. You can also state any areas of improvement for the future.</p>                                                                                                                                                                                                                                            |
| 9.  | Conclusion/Summary | <p>This section draws together and summarises the findings of the audit. It should comment on the original aim and objectives and whether standards have been reached. It highlights the key findings and the most noteworthy points from, which the conclusion can be drawn. The evidence within the results must support conclusions.</p>                                                                                                                                                                                             |
| 10. | Recommendations    | <p>Recommendations set out what needs to be done as a result of the audit. This may include for example:</p> <ol style="list-style-type: none"> <li>1. raising awareness of the findings of the audit;</li> <li>2. training and education on best practice;</li> <li>3. increasing sample sizes next time;</li> <li>4. Recommendations must be realistic. (There is a need to discuss and agree with facility In-charge/head of section who need to take action on recommendations, as they may have resource implications).</li> </ol> |

|     |            |                                                                                                                                                                                                                                                                                                                                               |
|-----|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. | References | For any references you may have, use the Harvard style or take direction from the Audit Lead.                                                                                                                                                                                                                                                 |
| 12. | Appendices | <p>Appendices are usually referenced within the report and can include:</p> <ol style="list-style-type: none"> <li>1. Additional or more in-depth information to that given in the report;</li> <li>2. The audit plans;</li> <li>3. The guideline or protocol the standards are drawn from;</li> <li>4. The data collection tools.</li> </ol> |

### ANNEX 3: Generic Tool for Conducting Clinical Audit

#### SECTION A: HOSPITAL BACKGROUD INFORMATION

|                             |                         |                                     |                    |                     |
|-----------------------------|-------------------------|-------------------------------------|--------------------|---------------------|
| <b>Name of the Region</b>   |                         | <b>Name of the District/Council</b> |                    |                     |
| <b>Name of the Facility</b> |                         |                                     |                    |                     |
| <b>Date of Visit</b>        |                         |                                     |                    |                     |
| <b>Previous visit date</b>  |                         |                                     |                    |                     |
| <b>Auditors</b>             | <b>Name of Auditors</b> | <b>Title</b>                        | <b>Designation</b> | <b>Mobile/Email</b> |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |
|                             |                         |                                     |                    |                     |

#### SECTION B: AREAS OF CLINICAL AUDITING

**INSTRUCTIONS:** Place a Tick (✓) where appropriate.

**AREA 1: Clinical case**

**Review 5 files per auditor and fill in independent questionnaire.**

| <b>CHECK ITEMS</b>                       |                                                     | <b>MEANS OF VERIFICATION</b> | <b>Y</b> | <b>N</b> | <b>NA</b> | <b>COMMENTS</b> |
|------------------------------------------|-----------------------------------------------------|------------------------------|----------|----------|-----------|-----------------|
| <b>1.0: Patient Personal Particulars</b> |                                                     |                              |          |          |           |                 |
| 1.1                                      | Is the registration number recorded?                | Check patient's file         |          |          |           |                 |
| 1.2                                      | Is the patient's full name written on every page?   | Check patient's file         |          |          |           |                 |
| 1.3                                      | Has the patient's date of birth/ age been recorded? | Check patient's file         |          |          |           |                 |
| 1.4                                      | Has the patient's sex been recorded?                | Check patient's file         |          |          |           |                 |

|                               |                                                                                           |                      |  |  |  |  |
|-------------------------------|-------------------------------------------------------------------------------------------|----------------------|--|--|--|--|
| 1.5                           | Has the patient's address (village, ward, district, region) been recorded?                | Check patient's file |  |  |  |  |
| 1.6                           | Has the contact telephone number been recorded?                                           | Check patient's file |  |  |  |  |
| 1.7                           | Has the patient's occupation been recorded?                                               | Check patient's file |  |  |  |  |
| 1.8                           | Next of kin name and contact recorded                                                     | Check patient's file |  |  |  |  |
| 1.9                           | Has the patient's weight been recorded?                                                   | Check patient's file |  |  |  |  |
| 1.10                          | Is the patient's admission date recorded?                                                 | Check patient's file |  |  |  |  |
| 1.11                          | Is the patient's admission time recorded?                                                 | Check patient's file |  |  |  |  |
| <b>2.0: Patient's History</b> |                                                                                           |                      |  |  |  |  |
| 2.1                           | Has the patient's current complaint(s) been recorded?                                     | Check patient's file |  |  |  |  |
| 2.2                           | Has the history of presenting illness been recorded?                                      | Check patient's file |  |  |  |  |
| 2.3                           | Has the reviewing of other systems been recorded?                                         | Check patient's file |  |  |  |  |
| 2.4                           | Has the past medical history been recorded? (Include history of traditional medicine use) | Check patient's file |  |  |  |  |
| 2.5                           | Has the patient's family social history been recorded?                                    | Check patient's file |  |  |  |  |

| <b>3.0: Patient Examination</b> |                                                                 |                                                  |  |  |  |  |
|---------------------------------|-----------------------------------------------------------------|--------------------------------------------------|--|--|--|--|
| 3.1                             | Has the patient's general examination been recorded properly?   | Check patient's file                             |  |  |  |  |
| 3.2                             | Has the patient's vital signs been recorded properly?           | Check patient's file                             |  |  |  |  |
| 3.3                             | Has respiratory system examination been recorded properly?      | Check patient's file                             |  |  |  |  |
| 3.4                             | Has cardiovascular system examination been recorded properly?   | Check patient's file                             |  |  |  |  |
| 3.5                             | Has gastrointestinal system examination been recorded properly? | Check patient's file                             |  |  |  |  |
| 3.6                             | Has central nervous system examination been recorded properly?  | Check patient's file                             |  |  |  |  |
| <b>4.0: Plan of Management</b>  |                                                                 |                                                  |  |  |  |  |
| 4.1                             | Has the patient's provisional diagnosis been recorded?          | Check patient's file                             |  |  |  |  |
| 4.2                             | Has the differential diagnosis been recorded?                   | Check patient's file                             |  |  |  |  |
| 4.3                             | Has the investigation (s) been ordered?                         | Check patient's file                             |  |  |  |  |
| 4.4                             | Is/Are the investigation (s) ordered relevant to the diagnosis? | Check patient's file                             |  |  |  |  |
| 4.5                             | Has the time for sample collection/investigation been recorded? | Check sample collection form/ investigation form |  |  |  |  |

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| 4.6                                    | Has the results of the ordered investigation(s) been recorded?                                                                                                               | Check patient's file                                                                       |  |  |  |  |
| <b>5.0: Treatment</b>                  |                                                                                                                                                                              |                                                                                            |  |  |  |  |
| 5.1                                    | Has the treatment plan been written?                                                                                                                                         | Check patient's file                                                                       |  |  |  |  |
| 5.2                                    | Are treatments provided to patients conforming to available national treatment protocol (STG) or Hospital protocols/Formulary?                                               | Check patient's file, prescription and standard/Institutional treatment guideline          |  |  |  |  |
| 5.3                                    | Has the treatment given been recorded?                                                                                                                                       | Check patient's file                                                                       |  |  |  |  |
| 5.4                                    | If medication has been changed, has the reason for change of medication been recorded and does it follow standard treatment guideline and institutional treatment guideline? | Patient interview and check patient's file and standard/Institutional treatment guideline. |  |  |  |  |
| 5.5                                    | Has any reaction to treatment been observed and recorded?                                                                                                                    | Check patient's file                                                                       |  |  |  |  |
| 5.6                                    | Has the treatment outcome been recorded?                                                                                                                                     | Check patient's file                                                                       |  |  |  |  |
| <b>6.0: Inpatient Service Delivery</b> |                                                                                                                                                                              |                                                                                            |  |  |  |  |
| 6.1                                    | Are Dr's notes written correctly? (include date, time, name and signature)                                                                                                   | Check patient's file                                                                       |  |  |  |  |

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| 6.2  | Are Nurse's notes written correctly?<br>(include date, time, name and signature)                                           | Check patient's file                                                                           |  |  |  |  |
| 6.3  | Has the observation chart been filled properly?                                                                            | Check observation chart                                                                        |  |  |  |  |
| 6.4  | Has the treatment chart been filled properly?                                                                              | Check treatment chart                                                                          |  |  |  |  |
| 6.5  | Has the pantograph been filled properly?                                                                                   | Check pantograph                                                                               |  |  |  |  |
| 6.6  | If the Nurse called a Dr. to review the patient, was the time of call documented?                                          | Check patient's file                                                                           |  |  |  |  |
| 6.7  | For emergency cases, if the patient needed to be reviewed, was it done within 30 minutes?                                  | Check patient's file                                                                           |  |  |  |  |
| 6.8  | For cold cases, if the patient needed to be reviewed by higher/different levels of specialty, was it done within 12 hours? | Check patient's file                                                                           |  |  |  |  |
| 6.9  | Is there a displayed timetable for ward rounds?                                                                            | Check the notice board                                                                         |  |  |  |  |
| 6.10 | Is the timetable for ward rounds followed?                                                                                 | Check patient's file, ward round book and compare with the timetable.<br>Interview 5 patients. |  |  |  |  |

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| 6.11                                                                 | Does the composition of major ward round align with the standard?                                                                      | Check ward round book/forms                     |  |  |  |  |
| 6.12                                                                 | Is the nursing ward round done?                                                                                                        | Check ward round book and interview 5 patients. |  |  |  |  |
| 6.13                                                                 | Is the patient handing over report between nursing shifts done properly?                                                               | Check report book/ patient handing over forms   |  |  |  |  |
| <b>Area 2: Laboratory, Mortuary, Radiology and Pharmacy Services</b> |                                                                                                                                        |                                                 |  |  |  |  |
| <b>7.0: Laboratory Services</b>                                      |                                                                                                                                        |                                                 |  |  |  |  |
| 7.1                                                                  | Does the laboratory request form contain patient particulars filled in correctly? (Include name, age, sex, phone no, name of the ward) | Check laboratory request form                   |  |  |  |  |
| 7.2                                                                  | Does the laboratory request form contain brief history of the patient? (include provisional diagnosis)                                 | Check laboratory request form                   |  |  |  |  |
| 7.3                                                                  | Did the results come out within Turnaround Time (TAT)?                                                                                 | Check printed out TAT                           |  |  |  |  |
| 7.4                                                                  | Is the laboratory register filled in properly?                                                                                         | Check register book/electronic system           |  |  |  |  |
| 7.5                                                                  | Does the laboratory report form contain time, name and signature of the tester and verifier of the results?                            | Check patient results forms                     |  |  |  |  |

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| 7.6  | Did the laboratory have any stock out/ machine break out within the last 6 months?                                        | Check bin card and ledger book                                                               |  |  |  |  |
| 7.7  | Has the temperature chart been filled properly?                                                                           | Check temperature chart                                                                      |  |  |  |  |
| 7.8  | Is there a schedule for planned preventive maintenance (PPM) and is it followed?                                          | Check PPM schedule                                                                           |  |  |  |  |
| 7.9  | Laboratory tests performed after successful quality control procedures are done in daily basis?                           | Check quality control report                                                                 |  |  |  |  |
| 7.10 | Laboratory tests performed are enrolled in external quality assessment scheme and evidence available                      | Check External Quality Assurance (EQA) report (HIV rapid test, Blood Grouping serology etc.) |  |  |  |  |
| 7.11 | Are laboratory staff competent to perform assigned tasks?                                                                 | Check presence of competence assessment checklist in personnel file                          |  |  |  |  |
| 7.12 | Method used for testing patient's samples are verified to meet the intended use of examination before introduced into use | Check verification report (sensitivity, specificity, accuracy, linearity, precision)         |  |  |  |  |

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| 7.13                                                                | Is the facility conducting culture and sensitivity for IPD patient to control Antimicrobial resistance (AMR)? | Check Laboratory register |  |  |  |  |
| <b>7.14 Calibration of Laboratory Major and Auxiliary Equipment</b> |                                                                                                               |                           |  |  |  |  |
| 7.14.1                                                              | Calibration of Electronic balance done by appropriate authority and recorded                                  | Check valid certificates  |  |  |  |  |
| 7.14.2                                                              | Calibration of Thermometers done by appropriate authority and recorded                                        | Check valid certificates  |  |  |  |  |
| 7.14.3                                                              | Calibration of Timer done by appropriate authority and recorded                                               | Check valid certificate   |  |  |  |  |
| 7.14.4                                                              | Calibration of Centrifuge done by appropriate authority and recorded                                          | Check valid Certificate   |  |  |  |  |
| 7.14.5                                                              | Calibration of Refrigerators done by appropriate authority and recorded                                       | Check valid certificate   |  |  |  |  |
| 7.14.6                                                              | Calibration of Autoclave done by appropriate authority and recorded                                           | Check valid Certificate   |  |  |  |  |
| 7.14.7                                                              | Calibration of Microscopes done by appropriate authority and recorded                                         | Check valid Certificate   |  |  |  |  |
| 7.14.8                                                              | Calibration of Analyser done by appropriate authority and recorded                                            | Check valid Certificate   |  |  |  |  |

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| 7.14.9                                     | Calibration of incubators done by appropriate authority and recorded                                                          | Check valid Certificate      |  |  |  |  |
| 7.14.10                                    | Calibration of Biosafety cabinets done by appropriate authority and recorded                                                  | Check valid Certificate      |  |  |  |  |
| 7.14.11                                    | Calibration of Freezers done by appropriate authority and recorded                                                            | Check valid Certificate      |  |  |  |  |
| <b>7.15 Mortuary Services</b>              |                                                                                                                               |                              |  |  |  |  |
| 7.15.1                                     | Does the facility have a mortuary?                                                                                            | Check and verify             |  |  |  |  |
| 7.15.2                                     | Who is in-charge of mortuary services?                                                                                        | Check and verify             |  |  |  |  |
| 7.15.3                                     | Is the mortuary capacity adequate?                                                                                            | Check and verify             |  |  |  |  |
| 7.15.4                                     | Are mortuary staff trained?                                                                                                   | Check and verify             |  |  |  |  |
| 7.15.5                                     | Are there maintenance records for mortuary refrigerators?                                                                     | Check and verify             |  |  |  |  |
| 7.15.6                                     | Who receives mortuary services fee?                                                                                           | Check and verify             |  |  |  |  |
| 7.15.7                                     | Does the mortuary have PM kits?                                                                                               | Check and verify             |  |  |  |  |
| 7.15.8                                     | Where does the mortuary get its supplies?                                                                                     | Check and verify             |  |  |  |  |
| <b>8.0: Radiology and Imaging Services</b> |                                                                                                                               |                              |  |  |  |  |
| 8.1                                        | Does the radiology form contain patient particulars filled in correctly? (Include name, age, sex, phone no, name of the ward) | Check radiology request form |  |  |  |  |

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| 8.2                                                                           | Does the radiology form contain brief history of the patient? (include provisional diagnosis)   | Check radiology request form                   |  |  |  |  |
| 8.3                                                                           | Is the radiology register book filled in properly?                                              | Check radiology register                       |  |  |  |  |
| 8.4                                                                           | Does the radiology form contain name and signature of the sonographer/radiographer/radiologist? | Check radiology results                        |  |  |  |  |
| 8.5                                                                           | Is there a schedule for planned preventive maintenance (PPM)?                                   | Check PPM schedule and if it is followed       |  |  |  |  |
| 8.6                                                                           | Does the facility have TAEC certificate                                                         | Check availability of current TAEC certificate |  |  |  |  |
| <b>8.7 Calibration of Radiology and Imaging Major and Auxiliary Equipment</b> |                                                                                                 |                                                |  |  |  |  |
| 8.7.1                                                                         | Calibration of X-ray machine done by appropriate authority/personnel and recorded               | Check valid certificate/ form                  |  |  |  |  |
| 8.7.2                                                                         | Calibration of CR done by appropriate authority/ personnel and recorded                         | Check valid certificate/form                   |  |  |  |  |
| 8.7.3                                                                         | Calibration of illuminator done by appropriate authority/personnel and recorded                 | Check valid certificate/form                   |  |  |  |  |
| 8.7.4                                                                         | Calibration of Ultrasound machine done by appropriate authority/personnel and recorded          | Check valid certificate/form                   |  |  |  |  |

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| 8.7.5                | Calibration of CT-Scan Machine done by appropriate authority/personnel and recorded                                                                                       | Check valid certificate/form                  |  |  |  |  |
| <b>9.0: Pharmacy</b> |                                                                                                                                                                           |                                               |  |  |  |  |
| 9.1                  | Does the prescription form contain patient particulars filled in correctly? (Include name, age, sex, name of the ward)                                                    | Check prescription forms                      |  |  |  |  |
| 9.2                  | Does the prescription form contain name and signature of the prescriber?                                                                                                  | Check prescription forms                      |  |  |  |  |
| 9.3                  | Does the Pharmacist/Pharmaceutical personnel participate in patient management with other clinical team in making correct decisions regarding patient's quality of life?  | Check ward round book/forms                   |  |  |  |  |
| 9.4                  | Does the Pharmacist/Pharmaceutical personnel review prescription form to check incorrect dosages, medication errors, indicated uses and route of medicine administration? | Check patient's file, rejected prescriptions. |  |  |  |  |

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| 9.5  | Does the Pharmacist/Pharmaceutical personnel in the clinical team decides on Formulary interpretations, Adverse Drug Reactions (ADR) monitoring, drug-drug interactions, drug-food interactions and drug and poison information | Check ADR forms/register, patient's file                |  |  |  |  |
| 9.6  | Is the Pharmacist doing ward rounds to assess clinical outcome for the prescribed medicines to patients?                                                                                                                        | Check ward round book/forms                             |  |  |  |  |
| 9.7  | Do Pharmacist/Pharmaceutical personnel recall unused medicines in wards due to change of treatment or death?                                                                                                                    | Check suspensory ledger book for the past 30 days.      |  |  |  |  |
| 9.8  | Are medicines available to manage all clinical conditions identified?                                                                                                                                                           | Check and verify if the stock availability is above 80% |  |  |  |  |
| 9.9  | Does the facility have internal control protocol for prescription and use of restricted medicines?                                                                                                                              | Check for SOP of controlling restricted medicine        |  |  |  |  |
| 9.10 | Has the temperature chart been filled properly?                                                                                                                                                                                 | Check temperature chart                                 |  |  |  |  |

| <b>Area 3: Communication with Patient, Ethical Considerations and Other Crosscutting Issues</b> |                                                                                                                |                                    |  |  |  |  |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------|--|--|--|--|
| <b>Interview Not Less Than 5 Patients and Fill in Independent Questionnaire</b>                 |                                                                                                                |                                    |  |  |  |  |
| <b>10.0: Communication with Patient</b>                                                         |                                                                                                                |                                    |  |  |  |  |
| 10.1                                                                                            | Has the patient been notified about the illness? (Include diagnosis and prognosis)                             | Interview patients                 |  |  |  |  |
| 10.2                                                                                            | Has the patient been given a room to ask questions?                                                            | Interview patients                 |  |  |  |  |
| 10.3                                                                                            | Has the treatment plan been explained to the patient? (Include investigations, medication, surgical procedure) | Interview patients                 |  |  |  |  |
| 10.4                                                                                            | Has any advice and information given been recorded?                                                            | Interview patients                 |  |  |  |  |
| <b>11.0: Ethical Considerations</b>                                                             |                                                                                                                |                                    |  |  |  |  |
| 11.1                                                                                            | In case of any procedure, has an informed consent been properly filled?                                        | Check filled informed consent form |  |  |  |  |
| 11.2                                                                                            | If patient information was given to relatives, was the consent sought?                                         | Exit interview patients            |  |  |  |  |
| 11.3                                                                                            | Has pre-examination consent been done? (verbal consent)                                                        | Exit interview patients            |  |  |  |  |
| 11.4                                                                                            | Was privacy maintained during examination/ procedure?                                                          | Exit interview patients            |  |  |  |  |

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| 11.5                                   | Is confidentiality observed during storage of patient records?                                              | Patient files stored in a locked area/password in case of electronic |  |  |  |  |
| 11.6                                   | Does the health care service provider observe codes of conduct? (Include identity card, proper dressing)    | Observation                                                          |  |  |  |  |
| <b>12.0: Other Crosscutting Issues</b> |                                                                                                             |                                                                      |  |  |  |  |
| 12.1                                   | Has maternal audit been done properly? (Include notification within 24 hours and discussion within 7 days)  | Check delivery book, patient file and analyse maternal audit report  |  |  |  |  |
| 12.2                                   | Has perinatal audit been done properly? (Include notification within 24 hours and discussion within 7 days) | Check delivery book, patient file and analyse maternal audit report  |  |  |  |  |
| 12.3                                   | Is the nurse to patient ratio according to WHO Standard? (1:8 for IPD patients and 1:3 for ICU patients)    | Interview ward in charge                                             |  |  |  |  |
| 12.4                                   | Is the Dr. to patient ratio according to WHO standard?                                                      | Interview ward in-charge                                             |  |  |  |  |
| 12.5                                   | Does the facility triage patients within 5 minutes of arrival at OPD                                        | Observe OPD                                                          |  |  |  |  |

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| 12.6                                                                                                                                                                                                                                 | If the patient has been referred, has the reason for referral been specified?                                                                 | Check the patient's file and referral forms at Registry                 |  |  |  |  |
| 12.7                                                                                                                                                                                                                                 | Are radiology staffs qualified to perform assigned tasks? (either sonographer, radiographer or radiologist)                                   | Interview HR officer<br><br>Verify professional certificates in 5 files |  |  |  |  |
| 12.8                                                                                                                                                                                                                                 | Are pharmacist/pharmaceutical personnel qualified to perform assigned tasks? (check certificate of registration, current license to practice) | Interview HR officer<br><br>Verify professional certificates in 5 files |  |  |  |  |
| 12.9                                                                                                                                                                                                                                 | Are nurses qualified to perform assigned tasks? (check certificate of registration, current license to practice)                              | Interview HR officer<br><br>Verify professional certificates in 5 files |  |  |  |  |
| 12.10                                                                                                                                                                                                                                | Are doctors qualified to perform assigned tasks? (check certificate of registration, current license to practice)                             | Interview HR officer<br><br>Verify professional certificates in 5 files |  |  |  |  |
| <b>12.11 Calibration of Other Medical Equipment Within Hospital</b>                                                                                                                                                                  |                                                                                                                                               |                                                                         |  |  |  |  |
| <b>NOTE 4: Select at least five identical equipment if one missing labeling of valid certificates the score is NO calibration this should be done for the equipment that when counting range from 10 onward within the facility.</b> |                                                                                                                                               |                                                                         |  |  |  |  |
| 12.11.1                                                                                                                                                                                                                              | Calibration of Anesthetic machines done by appropriate authority/ personnel and recorded                                                      | Check a valid certificate/ form                                         |  |  |  |  |

|         |                                                                                       |                                 |  |  |  |  |
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| 12.11.2 | Calibration of Diathermy done by appropriate authority/ personnel and recorded        | Check a valid certificate/ form |  |  |  |  |
| 12.11.3 | Calibration of ECG done by appropriate authority/ personnel and recorded              | Check a valid certificate/ form |  |  |  |  |
| 12.11.4 | Calibration of EEG done by appropriate authority/ personnel and recorded              | Check a valid certificate/ form |  |  |  |  |
| 12.11.5 | Calibration of Audiometers done by appropriate authority/ personnel and recorded      | Check a valid certificate/ form |  |  |  |  |
| 12.11.6 | Calibration of BP Machines done by appropriate authority/ personnel and recorded      | Check a valid certificate/ form |  |  |  |  |
| 12.11.7 | Calibration of Suction Machines done by appropriate authority/ personnel and recorded | Check a valid certificate/ form |  |  |  |  |
| 12.11.8 | Calibration of ventilator done by appropriate authority/ personnel and recorded       | Check a valid certificate/ form |  |  |  |  |
| 12.11.9 | Calibration of Patient monitors done by appropriate authority/ personnel and recorded | Check a valid certificate/ form |  |  |  |  |

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| 12.11.10 | Calibration of Oxygen concentrators done by appropriate authority/ personnel and recorded | Check a valid certificate/ form |  |  |  |  |
| 12.11.11 | Calibration of Operating lamps done by appropriate authority/ personnel and recorded      | Check a valid certificate/ form |  |  |  |  |

**NOTE 5:**

This Generic Tool Does Not Replace Specific Protocol of Care That Must Be Developed and Used as A Tool for Clinical Auditing Purpose.

**ANNEX 4: List of Resource Participants**

| No  | Name                     | Title                | Work Station                     |
|-----|--------------------------|----------------------|----------------------------------|
| 1.  | Dr. Grace Magembe        | DCS                  | MoHCDGEC-DCS                     |
| 2.  | Dr. Eliudi Eliakimu      | D-HQAD               | MoHCDGEC-HQA                     |
| 3.  | Dr. Joseph Hokororo      | PMO                  | MoHCDGEC-HQA                     |
| 4.  | Dr. Mohamed Mohamed      | Former D – HQAD      | MoHCDGEC-HQA                     |
| 5.  | Dr. Dorothy Gwajima      | Former DCS           | PO-RALG                          |
| 6.  | Dr. Bryson Kiwelu        | MO                   | TUMBI Regional Referral Hospital |
| 7.  | Dr. Peter Risha          | PD                   | PharmAccess                      |
| 8.  | Dr. Aloyce F. Lengesia   | MO                   | MoHCDGEC-HQA                     |
| 9.  | Dr. Saumu Nungu          | MO                   | MoHCDGEC-HQA                     |
| 10. | Inviolatha Chami         | NO                   | MoHCDGEC-DCS                     |
| 11. | Dr. Chrisogone J. German | MO                   | MoHCDGEC-HQA                     |
| 12. | Simon Ernest             | HS                   | MoHCDGEC-DCS                     |
| 13. | Anunsiatha Mrema         | QO                   | PharmAccess                      |
| 14. | Dr. Tahiya Yahya         | MO                   | MoHCDGEC-HQA                     |
| 15. | Ruth Ngowi               | Laboratory Scientist | MoHCDGEC-HQA                     |
| 16. | Dr. Omary Ubuguyu        | HMH/SA               | MoHCDGEC-DCS                     |
| 17. | Dr. Timothy V. Wonanji   | ADPPHF               | MoHCDGEC-DCS                     |
| 18. | Dr. Caroline D. Mayengo  | ADRRH                | MoHCDGEC-DCS                     |
| 19. | Danny Temba              | PHS                  | MoHCDGEC DCS                     |
| 20. | Dr. Bushi Lugoba         | MO                   | BMH                              |
| 21. | Said Chibwana            | PHO                  | JBHN-NTR                         |
| 22. | Dr. Fatuma Makuka        | SMO                  | PO-RALG                          |
| 23. | Lucy Issarow             | PNO                  | MoHCDGEC-HQAD                    |
| 24. | Miriam Matonya           | Laboratory Scientist | MoHCDGEC-NHLQATC                 |

|            |                       |                      |                                         |
|------------|-----------------------|----------------------|-----------------------------------------|
| <b>25.</b> | Dr. Phineas Sospeter  | Pr. Coordinator      | MoHCDGEC-RCH                            |
| <b>26.</b> | Dr. Consolata Mbatina | Physician            | Amana Regional Referral Hospital        |
| <b>27.</b> | Wingod C Matawo       | NO                   | MoHCDGEC-DNMS                           |
| <b>28.</b> | Oscar Mwashuuya       | Laboratory Scientist | MoHCDGEC-NBTS                           |
| <b>29.</b> | Daniel Nkundu         | Medical Specialist   | Mwananyamala Regional Referral Hospital |
| <b>30.</b> | Kalenga H. Rungwe     | Driver               | Mwananyamala Regional Referral Hospital |
| <b>31.</b> | Judith Njau           | SQA                  | APHFTA                                  |
| <b>32.</b> | Laura Marandu         | NO                   | MoHCDGEC-HQAD                           |

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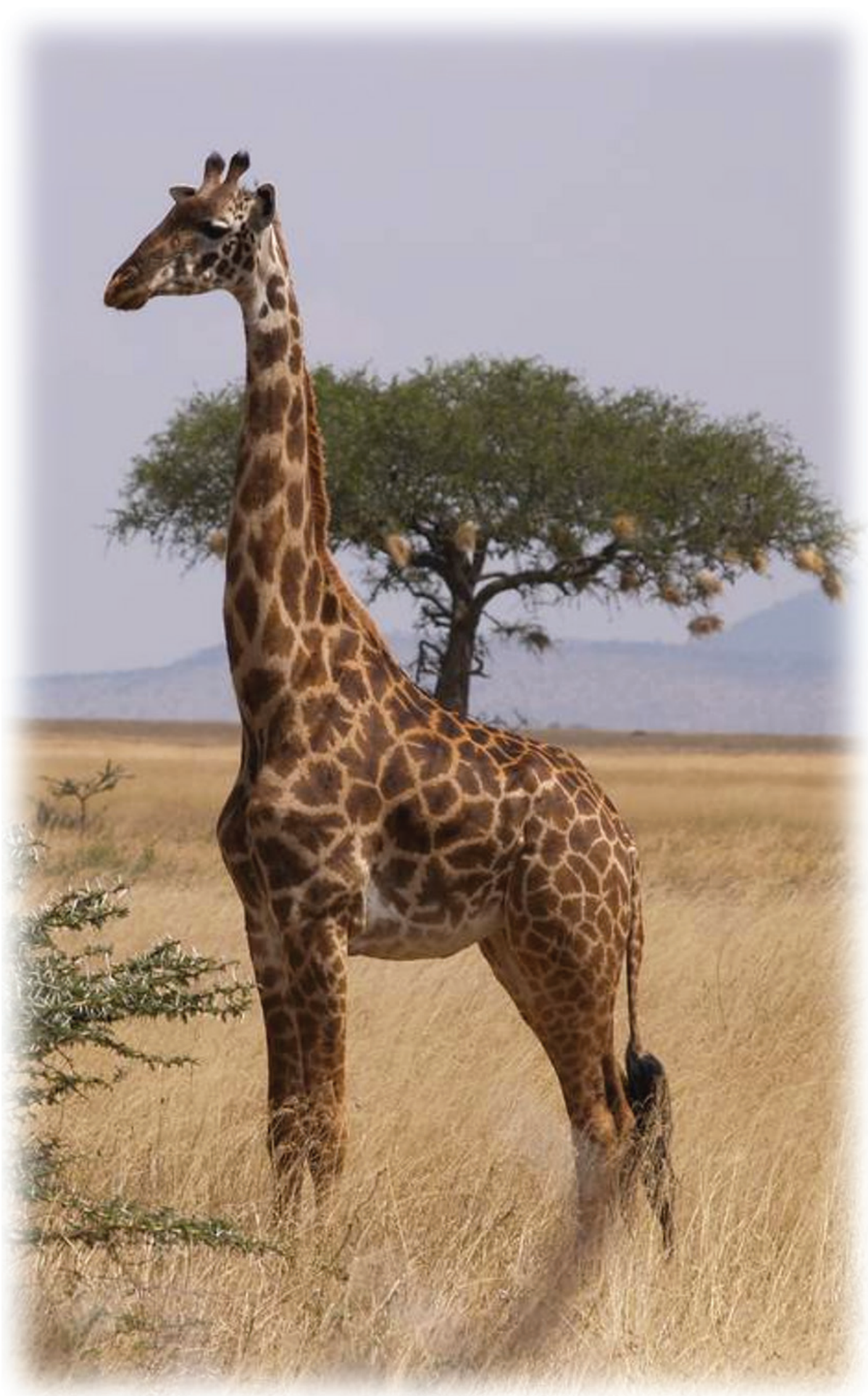
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