



GOVERNMENT OF MALAWI
MINISTRY OF HEALTH



NATIONAL RADIOLOGY POLICY

APRIL 2020

Comprehensive quality radiology services accessible to all

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FOREWORD

The overriding purpose of the National Radiology Policy is to provide a unified guiding framework for achieving quality and standardized radiological services in the country through addressing the identified key challenges and their root causes, thereby improving the functioning of radiological services. An important aspect is the diagnosis and treatment of diseases and conditions which calls for establishment of best diagnostic, interventional and therapeutic imaging services in the country.

This policy therefore will provide guidelines, which will direct the provision of diagnostic imaging services at different levels of health care delivery system for efficient and effective management of patients which consequently will improve the health status of the Malawian population. The policy is in tandem with “Health Sector Strategic Plan II 2017-2022” (HSSP II), and National Health Policy, the goal of which is to promote the quality of life of all Malawians through the delivery of an Essential Health Package.

The document, will therefore guide Government, cooperating partners, and other key stakeholders in the health sector with regard to the establishment and improvement of diagnostic imaging services in the country.

I wish to assure all stakeholders that the Government is strongly committed to provide the necessary leadership and enabling environment for effective and successful implementation of the policy.



Honourable Jappie Mhango M.P.
MINISTER OF HEALTH

PREFACE

The underlying philosophy and rationale of this policy is that medical radiological services are essential for the delivery of quality health care and should be made available to all the people of Malawi. Poor medical radiological services subject patients to inappropriate treatments, chronic ill-health, high out-of-pocket expenditures on health care, loss of incomes and ultimately loss of confidence in health services. Moreover, poor radiological services are also costly in terms of high wastage of scarce public resources due to ineffective treatments; and loss of economic productivity of the population due to chronic illness and loss of life.

This Policy will therefore be the single most important governance document to align all stakeholders towards strengthening the delivery of radiological services thereby contributing to achievement of the Malawi health sector goal of improving, financial risk protection and client satisfaction with service provided in the healthcare delivery system.

The policy has been developed in line with international commitments such as International Atomic Energy Agency (IAEA) and International Society for Radiographers and Radiological Technologists (ISRRT).

Development and finalization of this policy is a result of commitment and effort from the Ministry of Health, Development Partners and several stakeholders who have been engaged in a series of policy reviews, meetings, workshops, and individual as well as institutional consultations over a period of time.

I would like therefore to thank individuals and various institutions who contributed financial and technical support to the development of this Policy. The Ministry of Health, invites all stakeholders to support the implementation, monitoring and evaluation of the National Radiology Policy.



Dr. Dan Namarika
SECRETARY FOR HEALTH

LIST OF ACRONYMS AND ABBREVIATIONS

AERA	Atomic Energy Regulatory Authority
CHAM	Christian Health Association of Malawi
CSO	Civil Society Organization
CT	Computerized Tomography
DHSS	Director of Health and Social Services
DHRM&D	Director of Human Resources Management and Development
HSSP II	Health Sector Strategic Plan II
HTSS	Health Technical Support Services
IAEA	International Atomic Energy Agency
ISRRT	International Society for Radiographers and Radiological Technologists
MCHS	Malawi College of Health Sciences
MGDS	Malawi Growth and Development Strategy
MOH	Ministry of Health
MoICE	Ministry of Information and Civic education
MoLGRD	Ministry of Local Government and Rural Development
MRI	Magnetic Resonance Imaging
NHP	National Health Policy
NHREC	National Health Research Committee
NRP	National Radiology Policy
PACORI	Pan-African Congress of Radiology and Imaging
PAM	Physical Assets Management
PMRA	Pharmacy and medicines regulatory Authority
QA	Quality Assurance
QMD	Quality Management Directorate
QC	Quality Control
RSOG	Radiology standard operation guidelines

GLOSSARY AND DEFINITION OF TERMS

Attrition

A reduction or decrease in numbers, size, strength and effectiveness of a force caused by loss of personnel.

Ethics

A set of moral principles that govern ones course of action.

Health and Safety

The discipline concerned with preserving and protecting human and facility resources in the workplace

Interventional Radiology

Medical specialty which provides minimally invasive image-guided diagnosis and treatment of disease

Ionizing radiation

Electromagnetic waves energetic enough to cause atoms to lose electrons and become ion.

Medical Imaging

Techniques and processes used to create images of the human body (or parts thereof) for clinical purposes.

Quality Assurance

Quality assurance is a programmt used by management to maintain optimal diagnostic image quality with minimum hazard and distress to patients.

Radiation

Energy that is radiated or transmitted in the form of rays or waves or particles

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01

INTRODUCTION

1.1 NATIONAL RADIOLOGY POLICY

The National Radiology Policy (NRP) provides a unified guiding framework for achieving quality and standardized radiological services in the country. The policy aims to improve the functioning of radiological services by addressing identified key challenges and their root causes. Radiology services in Malawi are faced with challenges such as poor infrastructure, inadequate equipment, inadequate funding, weak partner coordination, low staff development and non-existent or uncoordinated standards of operation. To achieve its objectives, the policy has five key areas of focus and these are: i) Capacity building and service delivery; ii) Infrastructure and equipment; iii) Health and Radiology Safety; iv) Quality Assurance; and v) Research and Data management. Under each priority area, specific strategies have been outlined that will address key challenges identified in provision of radiology services in Malawi.

1.2 BACKGROUND

Malawi Health Care System has four delivery levels namely; Community, Primary, Secondary and Tertiary levels. Radiology Services are provided at three levels, except at Community level. The radiology profession started in the late 1940s with Medical Assistants and Nurses trained on the job by expatriate Doctors. Before 1981, the country relied on foreign institutions to train its Radiographers. In 1981 the School of Radiography was started at the Malawi College of Health Sciences (MCHS), formerly Lilongwe School of Health Sciences, and produced its first certificate graduates in 1983. In 1991, an upgrading course to diploma level began after which a generic diploma course was commenced in 1999. Since 2006 the Ministry of Health (MoH) embarked on upgrading candidates with diplomas to degree level in diagnostic radiography in the Republic of South Africa.

Despite increasing annual output of radiology graduates from the training institutions, there is still a significant gap in human resource capacity. This has been due to, death, high attrition in public, Christian Health Association of Malawi (CHAM) and private hospitals. Lack of proper equipment management system and inadequate incentives for Radiographers and Radiologists deter staff from performing optimally. Opportunities for further studies have not been adequate and this has contributed to low motivation among members of staff and thus leads to some leaving the profession or migrating to other countries.

Even with the grave hazards associated with the use of ionizing radiation, the profession has existed in the country without proper policy and guidelines to govern the delivery of radiology services. In some cases, x-ray equipment has been operated by unqualified personnel thereby increasing the danger of exposing patients, staff members and the public to doses of ionizing radiation. In addition, coordination between the MOH and other institutions in the field of radiology services has been inadequate, hence the need for this policy to provide guidance.

1.3 CURRENT STATUS

Radiology services are widely provided for in Public, CHAM and Private Health facilities. There have been some individual and organizational strides in the growth and expansion of these services at various levels. However, challenges still remain that need to be addressed if radiology services are to improve in Malawi. Radiology services have not lived to the expectation of the beneficiaries due to poor infrastructure, inadequate equipment, inadequate funding, weak partner coordination, low staff development, and non-existent or uncoordinated standards of operation. Currently, service provision is being guided by outdated guidelines. Poor radiation protection strategies for patients, staff and the general public have been a major challenge among staff and other stakeholders. This is attributed to lack of coordinated mechanisms for implementing and monitoring of radiology services. Most government hospitals do not have designated ultrasound rooms leading to ultrasound examinations being performed in the same x-ray examination rooms. This contributes to unnecessary prolonged patients waiting time in the hospitals despite having staff who could work on x-ray and ultrasound examinations simultaneously.

Radiological services being provided include the following: diagnostic imaging services-general and special radiography, ultrasonography, computerized tomography (CT), mammography and magnetic resonance imaging (MRI). The country is yet to have the following radiology services: interventional radiology, nuclear medicine and radiotherapy.

At present, human resource inadequacy is a cross cutting problem and has affected radiology service at all levels of health care delivery. As of 2020, there are only 96 Radiography Technicians,

9 Radiation Therapists, 30 Radiographers (diagnostic), 1 Sonographer and 1 Radiologist working in public institutions. There is also 71 radiology staff in CHAM and Private Facilities. This is against a national population of over 17 million. Higher and specialized training in radiology has been limited. The majority have been trained in diagnostic imaging up to diploma level only. A few radiographers trained abroad have bachelors degrees and have mainly been trained in general diagnostic imaging, radiation therapy and only one in ultrasonography. Recently a second school in Malawi opened and is offering radiography training for radiographers at degree level and first graduates are expected in 2021. Furthermore, radiology is a vast field with various specialties and there is need to train staff in ultrasonography, magnetic resonance imaging, interventional imaging, nuclear medicine imaging, mammography and others.

The radiology infrastructure in the country fall short of meeting the minimum standards in diagnostic imaging, and interventional structures, with rooms often too small and lacking vital accessories that support the operation of the equipment. This compromises quality, safety and comfortability of both patients and staff. Radiological equipment is another big challenge with some departments either not equipped, partially equipped or installed with inappropriate equipment. Procurement of new equipment and accessories has been done without following standard guidelines. The poor status of equipment and lack of planned preventive and timely corrective maintenance inhibits effective provision of radiological services.

Health and safety is a critical component quality in radiology services. Compliance to Health and Safety Guidelines in radiology departments minimises preventable fatigue, illnesses and injury to patients, staff and the public. However, there are no guidelines on health and safety in radiology departments and this affects delivery of appropriate radiology services. On the other hand, Quality Assurance (QA) is insufficient in radiology departments. There is poor documentation and inadequate quality control (QC) due to absence of standards for quality controls. In addition, there is no External Quality Assurance Programme for radiology services.

Research and data are important in supporting evidence-based decision-making in providing radiology services. One of the key challenges is weak data management capacities due to: unstandardized generation, analysis and reporting; poor quality of data; inadequate investments; weak planning and implementation of monitoring and evaluation (M&E) activities; and limited capacity to use data for decision making. In general, the major challenge is that radiology services decision making has not been informed adequately by research due to: inadequate radiology research capacity; inadequate resources for research; lack of coordination, and non-adherence to the national health research frameworks and agenda.

1.4 PROBLEM STATEMENT

The provision of radiology services is affected by a number of challenges including: inadequate human resources, inadequate infrastructure and equipment, inadequate financing, weak quality assurance, weak health and radiation safety and limited research and data management. These challenges have been exacerbated by the lack of a coherent policy framework to guide implementation of the radiology services in a coordinated manner.

1.5 PURPOSE OF THE POLICY

The purpose of the National Radiology Policy is to provide a unified guiding framework for achieving quality and standardized radiological services in the country through addressing the identified key challenges and their root causes in order to improve delivery of radiological services.

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LINKAGE WITH OTHER RELEVANT POLICIES

The Policy will operate in line with other existing legal and policy frameworks at national, regional and global levels as indicated in the following sub-sections.

2.1 Linkage with overarching national documents

The Constitution of the Republic of Malawi

The National Radiology Policy has been developed to enhance linkages with country's Constitution promulgated in 1994. The Constitution guarantees all Malawians adequate health care and ensures equality of access to health services.

Malawi Growth and Development Strategy (MGDS) III (2017-2022)

The policy has further been informed by the Malawi Growth and Development Strategy (MGDS) III (2017-2021) whose goal is to create wealth through sustainable economic growth and infrastructure development.

2.2 LINKAGES WITH OTHER POLICIES AND STRATEGIC PLANS

National Health Policy 2018

The policy has been informed by the National Health Policy (NHP), whose goal is to improve the health status of all the people of Malawi by reducing the risk of ill health and occurrence of premature deaths, thereby contributing to the socio-economic development of the country.

National Medicines policy 2015

The policy is also informed by National Medicines policy 2015 whose overall goal is to improve and sustain the health of the population of Malawi by ensuring the availability, rational use and access to safe, effective, good quality and affordable medicines and medical supplies

Health Sector Strategic Plan II, 2017-2022

The Health Sector Strategic Plan II (HSSP II) 2017-2022 is the health sector's medium term strategic plan. The HSSP II will operationalize the National Health Policy. Objective 1: seeks to increase equitable access to and quality of health care services.

2.3 LINKAGES WITH RELEVANT LEGISLATIONS

Malawi Atomic energy regulations, 2012

This policy has been formulated in line with the Malawi Atomic Energy regulations on the protection of people against exposure to ionizing radiation.

Medical Practitioners and Dentists Act, 1987

The Act provides for the establishment of the Medical Council of Malawi, the registration and disciplining of medical practitioners and dentists, the regulation of training within Malawi of medical personnel, and generally for the control and regulations of medical profession and practice in Malawi.

2.4 LINKAGES WITH INTERNATIONAL INSTRUMENTS

Malawi is a signatory to international conventions and the policy took cognizance of the country's international commitments.

Sustainable Development Goals

The SDG Goal number 3 aims to achieve universal health coverage, including financial risk protection and access to quality essential health-care services. National radiology policy also aims at contributing towards universal health coverage and SDG related health targets.

International Society for Radiographers and Radiological Technologists (ISRRT)

The ISRRT is actively engaged in the promotion of improved radiographic services and development of protection against radiation and other hazards encountered in radiation medicine.

The Pan African Congress of Radiology and Imaging (PACORI)

PACORI encourages adherence standards, policies, strategies and activities for the promotion of radiation safety and for maximization of benefits from radiological medical procedures.

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BROAD POLICY DIRECTIONS

3.1 OVERALL GOAL

The overall goal of the policy is to contribute towards the improvement of health status of all Malawians through provision of comprehensive and quality radiology services by 2025.

3.2 POLICY OUTCOMES

The National Radiology Policy is envisaged to achieve the following outcomes:

- a. Sufficient and competent radiology staff for quality radiology services;
- b. Improved radiology infrastructure and equipment for quality service delivery;
- c. Improved health and radiation safety for reduced hazards and infections;
- d. Strengthened quality assurance program for better service delivery;
- e. Strengthened radiology research and data management capacities for informed decision making.

3.3 POLICY OBJECTIVES

The policy objectives are to:

- a. Ensure availability of competent radiology staff for effective, efficient and equitable delivery of radiology services;
- b. Ensure the availability of adequate space, appropriate infrastructure and equipment for quality radiology service delivery;
- c. Improve health and radiation safety in order to reduce hazards and infections to staff, patients and the public;
- d. Improve quality assurance in radiology services delivery at all levels;
- e. Strengthen research and data management capacities for informed decision making.

3.4 GUIDING PRINCIPLES AND VALUES

The radiology service provision shall be governed by the following principles and values:

3.4.1 Principles

- a) Integrity: Radiology staff shall discharge their duties with firm adherence to a code of ethics as demanded by the profession;
- b) Partnership: Radiology services shall be promoted in both public and private to ensure effective healthcare service delivery at all levels;
- c) Needs-based care: Radiological services shall be needs-based on scientifically proven and cost-effective national and international best practice;
- d) Equitable care: All individuals shall have access to affordable, high quality radiology services with appropriate care and in a timely manner;
- e) Respect for human rights: All the people of Malawi shall have the right to good health, and equitable access to radiology services without any form of discrimination, whether be it based on ethnicity, gender, age, disability, religion, political belief, geographical location, or economic and/or other social conditions;
- f) Community participation: Community participation shall be central in addressing radiology needs of the people of Malawi;
- g) Gender sensitivity: Gender mainstreaming shall be central in the implementation of this policy.

3.4.2 Values

- a) Compassion: All stakeholders shall show kindness, caring, and willingness to help others;
- b) Transparency and accountability: All stakeholders shall be responsible for actions taken; and be able to explain, clarify and justify them;
- c) Privacy and confidentiality: All stakeholders shall ensure that patients information will be private and confidential;
- d) Efficiency and effectiveness: All stakeholders shall be expected to use available resources for health efficiently and effectively to maximize health gains.

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POLICY PRIORITY AREAS

The policy has the following priority areas:

- a. Capacity building and service delivery
- b. Infrastructure and equipment
- c. Health and radiation safety
- d. Quality Assurance
- e. Research and Data management

4.1 Policy Priority Area 1:

Capacity Building and Service Delivery

Radiology Services are provided at three of the four levels of health care delivery namely; primary, secondary and tertiary. However, the delivery of radiology services is faced with number of challenges including: shortage of human resources, compromised services, limited higher and specialized training, limited specialties, weak partner coordination and use of outdated guidelines. There is need to address challenges pertaining to radiology human resource capacities and service delivery constraints in order to improve the quality of radiology services in Malawi.

Policy Statements

- a. ***Government shall ensure that adequate and well-trained radiology staffs are available at all levels.***

Strategies

- i. Reviewing and filling of radiology staff establishment in order to match with demands on the ground;
 - ii. Developing well defined training plan to meet current needs.
- b. ***Government shall ensure that all radiology services are efficient, equitable and accessible at all times to all Malawians.***

Strategies

- i. Re-defining the scope of radiology services offered at each level of service delivery;
- ii. Revising standards and guidelines for radiology services;
- iii. Strengthening partnerships and collaboration among all stakeholders in radiology services provision.

4.2 Policy Priority Area 2: Infrastructure and equipment

Radiology infrastructure in the country falls short of meeting the minimum standards with rooms often too small and lacking vital accessories. Limited availability and poor quality of medical equipment due to inadequate and ineffective procurement; weak procurement planning, coordination and management; inadequate resources; weak enforcement of standards; and theft of equipment have been prevalent at most radiology service delivery points. This has greatly compromised the quality, safety and comfortability of both patients and staff. To achieve increased coverage of high-quality radiology services, there is need to improve the availability of quality infrastructure and equipment that meets minimum standards.

Policy Statements

- a. ***Government shall ensure that radiology infrastructure meet the minimum requirements.***

Strategies

- i. Developing minimum space requirements for each radiology modality;
 - ii. Ensuring adequate awareness and adherence to requirements by all stakeholders;
 - iii. Strengthening financial resource mobilization for radiology infrastructure development.
- b. ***Government shall ensure that all equipment meets the minimum technical standards/ specifications according to requirements.***

Strategies

- i. Developing guidelines for equipment standardization;
- ii. Ensuring availability of adequate quality control, calibration and radiation monitoring equipment;
- iii. Strengthening and enforcing equipment maintenance measures and the implementation of equipment service contracts;
- iv. Ensuring adequate skills for radiology staff tasked with operating various equipment;
- v. Strengthening procurement procedures of radiology equipment to ensure it covers all technical requirements;
- vi. Strengthening adherence to standard equipment guidelines at all levels.

4.3 Policy Priority Area 3: Health and Radiation Safety

Currently, there are no guidelines on health and radiation safety at all levels of radiology service delivery and this affects delivery of appropriate radiology services. Compliance to Health and Safety Guidelines in radiology is critical because it minimises preventable fatigue, illnesses and injury to patients, staff and the public. To safeguard the health and radiation safety of all people appropriate measures must be put in place and enforced at all levels.

Policy Statements

a. Government shall ensure compliance to international and national health and radiation safety standards/measures in the provision of radiology services at all levels.

Strategies

- i. Reviewing existing Radiology Standard Operating Guidelines;
- ii. Strengthening the capacity of radiology staff in health and radiation safety;
- iii. Strengthening enforcement and monitoring compliance to health and radiation safety measures;
- iv. Developing a national Radiation Protection Programme (RPP);
- v. Supporting capacity building of health professionals in radiation protection and performance of quality control test;
- vi. Promoting public awareness on radiation safety standards.

b. Government shall ensure that all drugs and radiological materials administered to the patients externally or internally are inspected and registered as required by regulations.

Strategies

- i. Developing guidelines on procurement, usage and disposal of drugs and radiological materials;
- ii. Promoting capacity building and awareness of health workers on procurement, usage and disposal of drugs and radiological materials;
- iii. Strengthening enforcement and inspection of drugs and radiology materials.

c. Government shall ensure that all radiological wastes are disposed according to requirements on radioactive waste management.

Strategies

- i. Developing national guidelines on disposal of radiological wastes;
- ii. Supporting capacity building of service providers on disposal of radiological wastes;
- iii. Promoting public awareness on radiological wastes.

4.4 Policy Priority Area 4: Quality Assurance

There is inadequate quality assurance programme as a result radiology services have been characterized by lack of clearly stipulated standards for quality, poor quality control practices and poor documentation. Furthermore, there is no External Quality Assurance Programme to support and strengthen local capacities in improving proper quality assurance for radiation services. To offer good quality radiology services to the general public, a properly designed and well informed quality assurance programme is required to be implemented.

Policy Statements

Government shall ensure that a comprehensive radiology services Quality Assurance Program exists and implemented at all levels of health care delivery.

Strategies

- i. Developing a national radiology services Quality Assurance Programme;
- ii. Supporting the strengthening of regulatory authorities' capacities;
- iii. Strengthening supervision and mentorship of radiology staff at all levels;
- iv. Supporting and strengthening of radiology quality assurance programs in training institutions;
- v. Establishing partnerships and collaboration with external quality assurance programmes.

4.5 Policy Priority Area 5: Research and Data management

Radiology research is one of the areas that has not been widely exploited to ensure that decision on radiology services are informed by evidence. Furthermore, management of data has been problematic at all levels of service delivery. In general, informed decisions on radiology services have been negatively affected by weak data management practices, limited capacity for radiology research; inadequate resources for research; lack of coordination and non-adherence to the national health research agenda. To promote evidence-based decision making in the provision of radiology services, existing research and data management gaps need to be addressed.

Policy Statements

a. Government shall promote robust research in radiology services.

Strategies

- i. Ensuring radiology research is integrated in the National Health Research Agenda;
- ii. Strengthening local capacities in conducting radiology services research;
- iii. Promoting documentation and utilization of radiology services research findings;
- iv. Developing resource mobilization strategy for radiology services research;
- v. Promoting coordination and collaboration of radiology services research at all levels.

b. Government shall ensure that there is appropriate data management system at all levels.

Strategies

- i. Developing an Electronic Radiology Information Management System;
- ii. Developing a robust Picture Archive and Communication Systems (PACS);
- iii. Reviewing and updating of radiology data collection tools;
- iv. Strengthening data analysis, reporting and monitoring system.

05

IMPLEMENTATION ARRANGEMENT

5.1. Institutional Arrangements

Implementation of the policy will involve various stakeholders including: Government Ministries, Departments and Agencies, private sector organizations, development partners, civil society organizations, and non-governmental organizations. The role of key stakeholders in the implementation, monitoring and evaluation of the policy is therefore as follows:

Ministry of Health through the Directorate of Health Technical Support Services, will provide leadership and oversight as follows:

- a. Plan, develop, disseminate and review policies, standards, guidelines and protocols for radiology services;
- b. Provide overall guidance for provision of quality radiology services;
- c. Mobilize and leverage human and material resources for the implementation of the policy;
- d. Monitor and evaluate adherence to implementation of the radiology policy;
- e. Coordinate with Development Partners, International Organizations, Non-Governmental Organizations, Private and Public Sectors for cooperation and collaboration to promote and accelerate implementation of radiology policy.

Health Facilities (both public and private) will be responsible for implementing policies, guidelines and protocols in delivery of radiology services to clients and provide conducive clinical practice environment for radiology students.

Ministry of Local Government and Rural Development (MoLGRD) will collaborate with Ministry of Health in implementation of radiology services at district level. Among other things, the MoLGRD will create conducive environment for provision of radiology services in local health facilities, facilitate deployment of radiology staff, reinforce disciplinary measures among staff and mobilize resources for training of radiology staff.

Ministry of Finance, Economic Planning and Development will provide adequate budgetary allocation for implementation of radiology services.

Ministry of Education, Science and Technology will support radiology training institutions in the training of personnel for various cadres of radiology services.

Ministry of Information and Civic Education will be responsible for supporting community sensitization on radiology services, facilitate public education through multimedia approach and coordinate publicity and media coverage among stakeholders on radiology services.

Ministry of Gender, Children and Social Welfare will be responsible for empowering women, children and other vulnerable groups to make informed choices regarding radiology services.

Department of Human Resource Management and Development will be responsible for reviewing the scope of workload for radiology staff at all levels and support human resource development and placement in various radiology departments.

Parliamentary Committee on Health will be responsible for lobbying for increased budgetary allocation to the health sector, advocating for use of Local Development and Constituency Development Funds to support radiology services.

Development Partners will be responsible for providing technical and financial resources for implementation of the radiology policy.

Associations and Unions will be responsible for reinforce policy implementation, promoting community awareness, support human resource development, lobby for conducive work environments for radiological technologists and participate in decision making on issues affecting the profession.

Regulatory Bodies will: provide guidance and certification for the attainment of minimum standards, competence and skills required for the provision of radiology services; promote inclusion of current trends in radiology pre-service and in service programmes; monitor adherence to acceptable standards of practice; develop radiology education and practice standards, and reinforce professional conduct among radiology staff

Training institutions will be responsible for incorporating new trends in radiology services into pre-service training, increase production of professional radiology staff and design relevant training programmes in response to national priorities.

CHAM will collaborate with Ministry of Health on the training of radiology staff and provide technical and financial support for provision of radiology services.

Civil Society Organizations will ensure community awareness of radiology services as well as patients & healthcare workers' rights and advocate for the strengthening of radiology services at all levels.

Patients, Families & Communities will advocate for access to services as required, collaborate with radiology staff, actively involved in decision making with regard to their needs and participate in evaluating radiology care provision.

5.2 Implementation Plan

To ensure effective implementation of the policy, a detailed implementation plan will be developed. The implementation plan will provide a linkage between the policy goal and objectives on one hand, and strategies and institutions responsible for implementing those strategies on the other hand. It will also include a timeframe for the implementation of each strategy (Annex 6.1)

5.3 Monitoring and Evaluation

The implementation of the policy requires an effective and efficient monitoring and evaluation (M&E) system. The system shall provide the feedback information needed to identify implementation challenges and gaps. A detailed monitoring and evaluation plan for this policy, with appropriate performance indicators, outputs and targets will be developed and implemented together with the implementation plan in form of a strategic plan (Annex 6.2).

5.4 Review of the Policy

The policy will be implemented for a five-year period starting from 2020 to 2025. The review processes on the policy will commence in the last year of implementing the policy to ensure that by the end of the five-year implementing period, a successor policy would have been developed and ready for implementation.



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ANNEXES

6.1 IMPLEMENTATION PLAN

POLICY AREA 1: CAPACITY BUILDING AND SERVICE PROVISION			
<i>Policy Statement: Government shall ensure that adequate and well trained radiology staffs are available at all levels all radiology service delivery.</i>			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To ensure availability of competent radiology staff for effective, efficient and equitable delivery of radiology services.	<p>Reviewing and filling of radiology staff establishment in order to match with demands on the ground.</p> <p>Developing well-defined training plan to meet current needs.</p>	<p>MoH, DHRMD, District Councils, Central Hospitals, CHAM.</p> <p>MoH, District Councils, CHAM, Training Institutions.</p>	<p>2020-2025</p> <p>2020-2022</p>
<i>Policy Statement: Government shall ensure that all radiology services are efficient, equitable and accessible at all times to all Malawians</i>			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To ensure availability of competent radiology staff for effective, efficient and equitable delivery of radiology services.	Re-defining the scope of radiology services offered at each level of service delivery.	MoH, DHRMD, District Councils, Central Hospitals, CHAM Professional Associations.	2020-2021
	Revising standards and guidelines for radiology services.	MoH, District Councils, CHAM, Central Hospitals, Professional Associations, Regulatory Bodies.	2020-2022

	Strengthening partnerships and collaboration among all stakeholders in radiology services provision.	MoH, DHSS, District Councils, CHAM, Central Hospitals, Professional Associations, Regulatory Bodies, Training Institutions, Civil Society, Development Partners.	2020-2025
POLICY AREA 2: INFRASTRUCTURE AND EQUIPMENT			
<i>Policy Statement: Government shall ensure that radiology infrastructure meet the minimum requirements.</i>			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To ensure the availability of adequate space appropriate infrastructure and equipment for quality radiology service delivery.	Developing minimum space requirements for each radiology modality.	MoH, District Councils, Central Hospitals, CHAM, Professional Associations, Regulatory Bodies.	2020-2021
	Ensuring adequate awareness and adherence to requirements by all stakeholders.	MoH, District Councils, Central Hospitals, CHAM, Professional Associations.	2020-2025
	Strengthening financial resource mobilization for radiology infrastructure development.	MoH, District Councils, Central Hospitals, CHAM, Professional Associations.	2020-2025
<i>Policy Statement: Government shall ensure that all radiology equipment meets minimum technical standards/specifications according to requirements.</i>			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To ensure the availability of adequate space appropriate infrastructure and equipment for quality radiology service delivery.	Developing guidelines for equipment standardization.	MoH, Central Hospitals, District Councils, Professional Associations.	2020-2021

	Ensuring availability of adequate quality control, calibration and radiation monitoring equipment.	MoH, Development Partners	2020-2025
	Strengthening and enforcing equipment maintenance measures and the implementation of equipment service contracts.	MoH, Central Hospitals, District Councils, CHAM.	2020-2025
	Ensuring adequate skills for radiology staff tasked with operating various equipment.	MoH, Central Hospitals, District Councils, CHAM, Training Institutions.	2020-2025
	Strengthening procurement procedures of radiology equipment to ensure it covers all technical requirements.	MoH, Central Hospitals, District Councils.	2020-2025
	Strengthening adherence to standard equipment guidelines at all levels.	MoH, Central Hospitals, District Councils.	2020-2025

POLICY AREA 3: HEALTH AND RADIATION SAFETY

Policy Statement: Government shall ensure compliance to international and domestic health and radiation safety standards/measures in the provision of radiology services at all levels.

Objective	Strategy	Responsibility/Stakeholders	Time-frame
To improve health and radiation safety in order to reduce hazards and infections to staff, patients and the public.	Reviewing existing Radiology Standard Operating Guidelines (RSOG).	MoH, District Councils, Central Hospitals, CHAM, Private for Profit Health Organizations, Professional Associations.	2020-2022
	Strengthening the capacity of radiology staff in health and radiation safety.	MoH, District Councils, Central Hospitals, CHAM, Private for Profit Health Organizations, Professional Associations, Training Institutions, Development Partners.	2020-2025
	Strengthening enforcement and monitoring compliance to health and radiation safety measures.	MoH, Central Hospitals, District Councils, CHAM, Regulatory Bodies.	2020-2025

	Developing a national Radiation Protection Programme (RPP).	MoH, District Councils, Central Hospitals, CHAM, Private for Profit Health Organizations, Professional Associations, Training Institutions, Development Partners.	2020-2022
	Supporting capacity building of health professionals in radiation protection and performance of quality control test.	MoH, Professional Associations, Training Institutions, Development Partners.	2020-2025
	Promoting public awareness on radiation safety standards.	MoH, District Councils, Central Hospitals, Ministry of Information and Civic Education, CHAM, CSOs.	2020-2025
<i>Policy Statement: Government shall ensure that all drugs and radiological materials administered to the patients externally or internally are inspected and registered as required by regulations.</i>			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To improve health and radiation safety in order to reduce hazards and infections to staff, patients and the public.	Developing guidelines on procurement, usage and disposal of drugs and radiological materials.	MoH, Central Hospitals, Atomic Energy Regulatory Authority (AERA), Professional Associations, Pharmacy and medicines regulatory Authority (PMRA), Training Institutions.	2020-2022
	Promoting capacity building and awareness of health workers on procurement, usage and disposal of drugs and radiological materials.	MoH, Central Hospitals, Atomic Energy Regulatory Authority (AERA), Professional Associations, Pharmacy and medicines regulatory Authority (PMRA), Training Institutions.	2020-2025

	Strengthening enforcement and inspection of drugs and radiology materials.	MoH, Central Hospitals, Atomic Energy Regulatory Authority (AERA), Professional Associations, Pharmacy and medicines regulatory Authority (PMRA), Training Institutions.	2020-2025
Policy Statement: Government shall ensure that all radiological wastes are disposed according to requirements on radioactive waste management.			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To improve health and radiation safety in order to reduce hazards and infections to staff, patients and the public.	Developing national guidelines on disposal of radiological wastes.	MoH, Central Hospitals, District Councils, CHAM, AERA, Private for Profit Health Organizations, Professional Associations, PMRA, Development Partners.	2020-2022
	Supporting capacity building of service providers on disposal of radiological wastes.	MoH, Central Hospitals, District Councils, CHAM, AERA, Training Institutions, Professional associations, PMRA, Development Partners.	2020-2025
	Promoting public awareness on radiological wastes.	MoH, Central Hospitals, District Councils, MoICE, CSOs, CHAM, AERA, Private for Profit Health Organizations, Professional Associations, PMRA, Development Partners.	2020-2025

POLICY AREA 4: QUALITY ASSURANCE

Policy Statement: Government shall ensure that a comprehensive radiology services Quality Assurance Program exists and implemented at all levels of health care delivery.

Objective	Strategy	Responsibility/Stakeholders	Time-frame
To improve quality assurance in radiology services delivery at all levels.	Developing a national radiology services Quality Assurance Program.	MoH, Central Hospitals, District Councils, CHAM, AERA, Private for Profit Health Organizations, Professional Associations, PMRA, Development Partners.	2020-2022
	Supporting the strengthening of regulatory authorities capacities.	MoH, Professional Associations, Development partners, Regulatory Bodies.	2020-2025
	Strengthening supervision and mentorship of radiology staff at all levels.	MoH, Central Hospitals, District Councils, CHAM, Private for Profit Health Organizations.	2020-2025
	Supporting the strengthening of radiology quality assurance programs in training institutions.	MoH, Training Institutions, Professional Associations, Development partners.	2020-2025
	Establishing partnerships and collaboration with external quality assurance programs.	MoH, Professional Associations, Development partners.	2020-2025

POLICY AREA 5: RESEARCH AND DATA MANAGEMENT

Policy Statement: Government shall promote robust research in radiology services.

Objective	Strategy	Responsibility/Stakeholders	Time-frame

To strengthen research and data management capacities for informed decision-making.	Ensuring radiology research is integrated in the National Health Research Agenda.	MoH, Training Institutions.	2020-2025
	Strengthening local capacities in conducting radiology services research.	MoH, Training Institutions, Development Partners.	2020-2025
	Promoting documentation and utilization of radiology services research findings.	MoH, Training Institutions, Development Partners.	2020-2025
	Developing resource mobilization strategy for radiology services research.	MoH, Development Partners.	2020-2022
	Promoting coordination and collaboration of radiology services research at all levels.	MoH, Training Institutions, Professional Associations, Development Partners.	2020-2025
Policy Statement: Government shall ensure that there is appropriate data management system at all levels.			
Objective	Strategy	Responsibility/Stakeholders	Time-frame
To strengthen research and data management capacities for informed decision making.	Developing an Electronic Radiology Information Management System.	MoH, Central Hospitals, District Councils, CHAM, Development Partners.	2020-2022
	Developing a robust Picture Archive and Communication Systems (PACS)	MoH, Central Hospitals, District Councils, CHAM, Development Partners.	2020-2022
	Reviewing and updating of radiology data collection tools.	MoH, Central Hospitals, District Councils, CHAM, Development Partners.	2020-2021
	Strengthening data analysis, reporting and monitoring system.	MoH, Central Hospitals, District Councils, CHAM, Development Partners.	2020-2025

6. 2: MONITORING AND EVALUATION PLAN

POLICY PRIORITY AREA 1: CAPACITY BUILDING AND SERVICE PROVISION

Outcome: Adequate and competently trained radiology staff at all levels.

Objective(s)	Output(s)	Performance Indicator(s)	Baseline	Target	Source(s) of Verification	Assumptions/Risks
To ensure availability of competent radiology staff for effective, efficient and equitable delivery of radiology services.	Radiology staff establishment reviewed and vacant posts filled.	Reviewed and approved radiology staff establishment.	0	1	Report on Staff establishment review	-Availability of financial resources
		Number of radiology posts created and filled.	US=1 Radiotherapy=8 MRI=1 CT=0 NMI=3 Mammography=0	35/ national 10/hospital 2/machine 5/machine 2/machine 2 /machine	HRH and institutional report	-Availability of financial resources and authority
	Staff members trained based on a well-defined training plan.	Approved training plan by 2021,	0	1	Copies of approved training plan	-Availability of financial resources

		Number of staff trained in specialized Programs.	US=1 Radiotherapy=8 MRI=0 CT=0 NMI=0 Mammography=0	35/ national 10/hospital 2/machine 5/machine 2/machine 2/machine	Training reports and Staff returns	-Availability of financial resources and specific program expertise	
	scope of radiology services offered at each service delivery level re-defined.	Number of radiology services reviewed.	0	All radiology services	Review report	-Availability of financial resources -Development Partners support	
	Standards and guidelines for radiology services reviewed.	Number of standards and guidelines reviewed.	0	All standards and guidelines	Copies of reviewed standards and guidelines	-Availability of financial resources -Development Partners support	
	Partnerships and collaboration among all stakeholders strengthened.	Number of partnerships and collaboration structures created.	0	All stakeholders	Minutes of meetings	-Availability financial resources -Good Stakeholder commitment	
PRIORITY AREA : INFRASTRUCTURE AND EQUIPMENT							
Outcome: Improved radiology infrastructure and equipment for quality service delivery.							
Objective(s)	Output(s)	Performance Indicator(s)	Baseline	Target	Source(s) of Verification	Assumptions/ Risks	

To ensure availability of adequate space infrastructure and equipment for quality radiology service delivery.	Minimum space requirements for each radiology modality developed.	Number of radiology modalities with minimum space requirements.	0	All radiology modalities	MoH reports	-Availability of financial resources and technical expertise
	Adequate stakeholder awareness and adherence to requirements ensured.	Number of stakeholders adhering to set requirements.	0	All stakeholders	Monitoring reports	-Availability of financial resources -Good collaboration of stakeholders
	Financial resource mobilization for radiology infrastructure development strengthened.	Percentage increase in funding for radiology infrastructure per annum.	0	100%	Financial reports	-Availability of financial resources -Development partners support
	Guidelines for equipment standardization developed.	Approved equipment standardization guidelines.	0	1	Copies of equipment standardization guidelines	-Availability of financial resources -Development partners support
	Availability of adequate quality control, calibration and radiation monitoring equipment ensured.	Proportion of health facilities with adequate radiology equipment.	0	100%	MoH reports	-Availability of financial resources -Development partners support
	Equipment maintenance measures and the implementation of equipment service contracts strengthened and enforced.	Percentage of health facilities adhering to equipment maintenance measures. Percentage of health facilities with equipment service contracts.	0	100%	Monitoring reports	-Availability of financial resources -Good stakeholder collaboration

	Adequate skills for radiology staff tasked with operating various equipment ensured.	Percentage of radiology staff trained in operating various equipment.	100%	Training reports	-Availability of financial resources -Good stakeholder collaboration
	Procurement procedures of radiology equipment Strengthened.	Revised procurement procedures.	1	Documented procurement procedures	-Availability of financial resources -Good stakeholder collaboration
	Adherence to standard equipment guidelines at all levels strengthened.	Percentage of health facilities adhering to standard equipment guidelines.	100%	MoH monitoring reports,	-Availability financial resources -Good stakeholder collaboration
POICY PRIORITY AREA 3:HEALTH AND RADIATION SAFETY					
Outcome: Improved health and radiation safety for reduced radiation hazards and infections.					
Objective(s)	Output(s)	Performance Indicator(s)	Baseline	Target	Source(s) of Verification
To improve health and radiation safety in order to reduce radiation hazards and infections to staff, patients and the public.	Existing Radiology Standard Operating Guidelines (RSOG) revised.	Revised Radiology Standard Operating Guidelines by 2022.	0	1	Copies of revised Guidelines
	Capacity of radiology staff in health and radiation safety strengthened.	Percentage of radiology staff competent in health and radiation safety.	0	100%	Supervision reports
					-Availability of financial resources

	Enforcement and monitoring of compliance to health and radiation safety measures strengthened.	Percentage of health facilities complying with health and radiation safety measures.	0	100%	Monitoring reports	-Availability of financial resources
	National Radiation Protection Programme (RPP) developed.	Approved National Radiation Protection Programme by 2022.	0	1	Copies of approved National RPP	-Availability of financial and technical resources -Development Partners Support -Good stakeholder collaboration
	Supporting capacity building of health professionals in radiation protection and performance of quality control test.	Percentage of Health professional capacitated in radiation protection and performance of quality control test.	0	100%	Training reports	-Availability of financial resources -Development Partners support
	Promoting public awareness on radiation safety standards.	Number of public awareness campaigns on radiation safety standards per annum.	0	5 per year	Awareness campaigns reports	-Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Guidelines on procurement, usage and disposal of drugs and radiological materials developed.	Guidelines developed and implemented by 2022.	0	1	Copies of approved Guidelines	-Availability of financial resources -Development Partners support

	Capacity building and awareness of health workers on procurement, usage and disposal of drugs and radiological materials and radiological materials promoted.	Percentage of health workers capacitated on procurement, usage and disposal of drugs and radiological materials.	0	100%	Training reports	-Availability of financial resources -Development Partners support
	Enforcement and inspection of drugs and radiology materials strengthened.	Number of quarterly inspection visits to a facility per annum.	1	4	Inspection reports	-Availability of financial resources -Good stakeholder collaboration
	National guidelines on disposal of radiological wastes developed.	Approved National guidelines on disposal of radiological wastes by 2022.	0	1	Copies of approved guidelines	-Availability of financial resources -Development Partners support
	Capacity building of service providers on disposal of radiological wastes supported.	Percentage of service providers capacitated on disposal of radiological wastes.	0	100%	Training reports	-Availability of financial resources -Development Partners support
	Public awareness on radiological wastes promoted.	Number of public awareness campaigns on radiological wastes per annum.	0	25 (5/yr)	Awareness campaigns reports	-Availability of financial resources -Development Partners support

POLICY AREA 4: QUALITY ASSURANCE**Outcome: Strengthened quality assurance program for better service delivery**

Objective(s)	Output(s)	Performance Indicator(s)	Baseline	Target	Source(s) of Verification	Assumptions/Risks
To improve quality assurance in radiology services delivery at all levels.	National Radiology Services Quality Assurance Program developed. Strengthening of regulatory authorities capacities supported.	Approved National Radiology Services Quality Assurance Program by 2022. Number of regulatory authorities supported in their capacity building efforts.	0	1	Copies of approved Quality Assurance Programme Trainings/Capacity building reports	-Availability of financial resources -Development Partners support -Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Supervision and mentorship of radiology staff at all levels strengthened.	Number of quarterly supervision and mentorship visits to facilities per quarter.	0	4/yr	Supervision reports	-Availability of financial resources -Good stakeholder collaboration
	Radiology quality assurance programs in training institutions strengthened and supported.	Number of training institutions providing training in radiology quality assurance programs.	0	2	MoH reports	-Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Establishing partnerships and collaboration with external quality assurance programs.	Number of active partnerships with external quality assurance programs.	0	All mapped external quality assurance programs	MoH reports, EQA reports	-Availability of financial resources -Development Partners support

POLICY AREA 5: RESEARCH AND DATA MANAGEMENT

Outcome: Compliance to research protocols and use of high quality research findings.

Objective(s)	Output(s)	Performance Indicator(s)	Baseline	Target	Source(s) of Verification	Assumptions/ Risks
To strengthen research and data management capacities for informed decision making.	Integration of radiology research in the National Health Research Agenda ensured.	Number of radiology research topics submitted and approved at the National Health Research Committee (NHREC) annually.	0	4	NHREC annual reports,	-Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Local capacities in conducting radiology services research strengthened.	Number of capacity building initiatives in radiology services research per annum.	0	2	Training and Capacity building reports	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Promoting documentation and utilization of radiology services research findings.	Number of publications on radiology research findings per annum.	0	All approved research topics in respective years	Copies of publications of research findings	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Resource mobilization strategy for radiology services research Developed.	Approved resource mobilization strategy for radiology research by 2022.	0	1	Copies of approved resource mobilization strategy	Availability of financial resources -Development Partners Support -Good stakeholder collaboration

	Coordination and collaboration of radiology services research at all levels promoted.	Number of coordination and collaboration meetings on radiology research per annum.	0	4	Minutes of coordination meetings	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	An Electronic Radiology Information Management System developed.	A Functioning Electronic Radiology Information Management System by 2022.	0	1	Progress reports of system functionality	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	A robust Picture Archive and Communication Systems (PACS) developed.	A functioning PACS by 2022.	0	1	Progress reports on PACS functionality	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Radiology data collection tools reviewed and updated.	Number of radiology data collection tools reviewed and updated by 2021.	0	All data collection tools	Review reports	Availability of financial resources -Development Partners Support -Good stakeholder collaboration
	Data analysis, reporting and monitoring system strengthened.	Percentage of health facilities supported in data analysis, reporting and monitoring.	0	100%	HTSS-DIAG-NOSTICS reports	Availability of financial resources -Development Partners Support -Good stakeholder collaboration



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