REPUBLIC OF RWANDA

MINISTRY OF HEALTH

LEVEL TWO TEACHING HOSPITAL STANDARDS

February 2022

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FOREWORD

Some of the most essential aspirations of nations are to achieve universal health coverage and ensure access to high-quality health care services for all citizens. The Government of Rwanda plans to meet these ambitious goals in part by strengthening governance, leadership, and accountability in training institutions and hospitals. Strengthening and expanding its human resources for health will serve as a key pillar in establishment and maintenance of a strong health system to achieve these essential goals.

One critical requirement to increase the quality of health education in Rwanda is to have a sufficient number of teaching hospitals that are fully equipped to train medical doctors, nurses, pharmacists and allied health professionals during their clinical rotations and internship. The Human Resource for Health Secretariat (HRHS) has taken on the responsibility to close the gap in teaching hospitals in Rwanda by upgrading some referral, provincial, and district hospitals to Level Two Teaching Hospitals. Level Two Teaching Hospitals standards were developed, in collaboration with relevant stakeholders, with the aim of increasing the number of high-quality and well-equipped teaching hospitals. These Level Two Teaching Hospitals will help to produce competent and well-trained health professionals through their clinical experience in a dynamic healthcare environment. Through their clinical training, health professionals will gain more practical knowledge of health conditions present around the world, along with an understanding of the requisite management approaches in order to ensure effective service delivery to all citizens.

The dissemination of these Level Two Teaching Hospitals standards, as well as their use in assessment and accreditation of Level Two Teaching Hospitals, will increase the quality of education of health professionals training especially in clinical rotations. It is anticipated that compliance with these standards will enable health professional training institutions to sustain a high-quality standard for their training programs, ensuring all health professional graduates have the necessary skills and competencies to provide quality healthcare in diverse settings.

All Level Two Teaching Hospitals and partners are required to adhere to these standards and ensure they are providing holistic training of health professionals with all requisite skills, competences and professionalism that guarantees the public of their right to highest attainable standards of health.

Let us all use this opportunity to recommit ourselves to the ongoing development of the health education system of Rwanda for the benefit of the Rwandan people now and in the future.

The Ministry of health is pleased to release these Level Two Teaching Hospitals Standards and urges all concerned hospitals and partners to embrace these standards and support their full implementation.

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ACKNOWLEDGEMENT

ACRONYMS

HRHS: Human Resources for Health Secretariat
LTTH: Level Two Teaching Hospitals
TH: Teaching Hospitals
TI: Teaching Institutions
CMHS: College of Medicine and Health Sciences
CPD: Continuous Professional Development
HEC: Higher Education Council
NST: National Strategy for Transformation
BP: Blood Pressure
KFH: King Faisal Hospital
CLSI: Clinical Laboratory Standards Institute
HSSP IV: Rwanda's fourth Health Sector Strategic Plan 2018-24
UGHE: University of Global Health Equity
CHUB : Centre Hospitalier Universitaire de Butare
NCNM: National Council of Nurses and Midwifery
NPC: National Pharmacy Council
RNMU: Rwanda Nurses and Midwives Union
RMDC: Rwanda Medical and Dental Council
RAHPC: Rwanda Allied Health Professional Council (RAHPC)
RIHSA: Rwanda Integrated Health Systems Activity
WHO: World Health Organization
UR: University of Rwanda

DEFINITION OF TERMS

Level Two Teaching Hospital: A district, provincial or referral hospital that serves as a Level Two Teaching Hospital with teaching activities included in its mission. They shall be regulated by the defined statutes, rules, and regulations and compliant with Level Two Teaching Hospital minimum requirements (Standards) established by HRH Secretariat in collaboration with different stakeholders.

Accreditation: The process by which the delegated authority formally recognizes a hospital's capacity to undertake the clinical education and training of health professionals.This is accomplished through a routine formal assessment.

Minimum Requirements: A set minimum standard that a Level Two Teaching Hospital or institution must hold in order to achieve its mandate and be accredited. If a Level Two Teaching Hospital or institution does not meet these standards, it will be required to address the gaps and achieve the minimum requirements within a set period of time in order to achieve accreditation.

INTRODUCTION AND RATIONALE

Background

Over the past 20 years, Rwanda has developed innovative solutions to grow and improve its health workforce, starting with the establishment of the Community Health Workers Program in 1995 and most recently the development of the National Strategy for Health Professions Development 2020-2030. These significant initiatives, developed and implemented in collaboration with other development partners, aimed at strengthening the health workforce across disciplines through significant investments in pre-service training.

Health workforce development remains a top national priority. Both Vision 2020 and the first National Strategy for Transformation (NST 1), as well as the more recent Vision 2050, emphasize the importance of increasing the number, capacity, and quality of health personnel to improve the provision and quality of health care for all Rwandans.

While acknowledging the commendable progress that has been made, the Government of Rwanda continues to strive toward further strengthening its health workforce. The country is committed to addressing issues of workforce distribution and management as well as further advancing the skill level of its workforce. The Government of Rwanda will continue to sustain and expand domestic training systems to achieve its ambitious workforce goals and continue making progress toward universal health coverage.

The 10-year National Strategy for Health Professions Development (NSHPD) was developed to guide efforts towards improving the availability of qualified, competent, and equitably distributed health workforce. The strategy addresses one of the primary bottlenecks to workforce development, which is the capacity of domestic institutions to train needed health workers. The government of Rwanda established the Human Resource for Health Secretariat (HRHS) in 2020 to support the implementation of the NSHPD and other priority health workforce interventions. The HRHS aims to continue building the capacity of the health workforce necessary to create a high-quality and sustainable healthcare system.

The NSHPD (2030) emphasizes several key aspects of Rwanda's health workforce development, including the educational environment. This will be achieved through improvement of governance and management structures of teaching hospitals, as well as infrastructural upgrades of academic and clinical teaching institutions.

Additionally, to ensure that each of the academic programs have necessary equipments and fundamental space required to teach, hospitals will be identified and upgraded to Level Two Teaching Hospitals to accommodate clinical training volumes to attain high quality training. Some hospitals will be upgraded to teaching hospitals and others to Level Two Teaching Hospitals.

Rationale

The meet the ambitious targets set out in the NSHPD, a significant expansion of the existing training infrastructure, including Level Two Teaching Hospitals, is required to train an adequate number of health professionals. The number of students that health professional schools enroll each year must be increased to meet the high demand for healthcare services in Rwanda. This high demand necessitates an increase in the number of teaching hospitals with a more standardized teaching system to ensure that all training facilities meet the minimum requirements to train competent professional practitioners able to provide high-quality healthcare services.

These standards have been developed to strengthen and upgrade existing district, provincial and referral hospitals to conduct research and provide education. Those hospitals that meet the set requirements will be accredited as Level Two Teaching Hospitals. Additionally, to ensure that health professional teaching and learning is comprehensive, some Level Two Teaching Hospitals which will eventually be upgraded into teaching hospitals.

The standards, therefore, outline the minimum requirements that must be covered by Level Two Teaching Hospitals for undergraduate and postgraduate training programmes and will be used as an inspection checklist for accreditation of Level Two Teaching Hospitals.

STANDARD 1: GOVERNANCE, LEADERSHIP AND MANAGEMENT

Overview of Governance, Management and Leadership

Providing high-quality instruction at Level Two Teaching Hospitals requires effective leadership at all levels, including hospital management and governing bodies as well as clinical and administrative leaders. These leaders must define the healthcare facility's mission and ensure that sufficient resources are available to fulfil that mission. Level Two Teaching Hospital leaders must also work together to coordinate, integrate, and oversee all of the facility's activities.

Effective governance, management and leadership must begin with a clearly defined list of the responsibilities for each hospital leader, and an outline of how these individuals will work together to meet all necessary requirements of the facility. Those in positions of leadership at the hospital have both the authority and responsibility to enable an adequate teaching environment for all students. Collectively and individually, they are responsible for complying with all government legislation and meeting the facility's responsibility to appropriately educate the student population.

Over time, effective management and leadership will ensure that facilities are able to identify and adequately address any communication challenges between departments in the facility and ensure that training and services are delivered smoothly. Facilities should continue to strive for improved integration between departments, as both training and service delivery will be more efficient and effective. The integration of all quality assurance and improvement activities throughout the facility will lead to improved services to patients and families.

1.1 Level Two Teaching Hospital Governance Structure

A Level Two Teaching Hospital is a referral/provincial/district hospital that serves as a Level Two Teaching Hospital with teaching activities included in its strategic plan; This shall be regulated by defined statutes, rules, and regulations respective to all stakeholders (HRHS/MOH, HEC, Health Professional Regulatory Bodies, concerned teaching institutions).

1.2 Mission

The board of directors and management in Level Two Teaching Hospitals will reflect the triple mission of treating, teaching, and research. Those responsible for governance approve the Level Two Teaching Hospital's mission statement and ensure approval and alignment of strategic policies, processes and plans for operation.

1.3 Organizational Structure of a Level Two Teaching Hospital

Level Two Teaching Hospitals shall have a well-defined leadership and management structure approved by Government and should be known and available to the staff.

Board of Directors

The Board of Directors is the overall policy body.[1]

Management Team

The management team, also called the senior management committee, is comprised of a Director General, Division managers, directors of units and the Heads of Departments.The management team has the responsibility of implementing all hospital activities including the teaching mission.

1.4 Communication and cooperation

Communication and cooperation between the Level Two Teaching Hospital's governance structure, management, and the relevant universities and colleges should be established. Evidence of this communication and cooperation shall include a memorandum of understanding, meeting minutes which are shared to all members of the management team, and correspondence and newsletters.

1.5 Level Two Teaching Hospital By-laws

The Level Two Teaching Hospital's governance structure, roles, and responsibilities of all stakeholders must be described in formal written documents.These documents must be coordinated with the HRHS, in collaboration with teachers, faculty, and other relevant stakeholders, and regularly shared with all students and personnel of the Level Two Teaching Hospital.

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[1] The law governing second level teaching hospitals is currently under development and approval

STANDARD 2: EDUCATION MANAGEMENT

The Director General, or equivalent leadership role of a Level Two Teaching Hospital, oversees the running of both the education and research programs at the facility. The Director General is responsible for ensuring that all departments have the required number of qualified facilitators, sufficient physical facilities, and the necessary equipment is available, used optimally and well maintained.

2.1 Selection of Hospitals as Level Two Teaching Hospitals

The Ministry of Health, through the HRHS, should identify existing hospitals that have the potential to fulfil the requirements to deliver expected learning outcomes specific to Level Two Teaching Hospitals. Where there is need to upgrade a hospital, the HRHS and other relevant parties must work with the facility to ensure it can fully meet all the accreditation requirements. Each Level Two Teaching Hospital must be enrolled in an accreditation program.

Different district, provincial or referral hospitals will be chosen to be upgraded to Level Two Teaching Hospitals based on the quality of their services and availability of equipments for critical specialties, including pediatrics, OB-GYN, and surgery, infrastructure and number of Beds operating theaters, bed occupancy rate, and potential of expansion.

2.2 Level Two Teaching Hospital Basic Space requirements

Each Level Two Teaching Hospital must comply with the equipment standards set out in this document and the accompanying assessment checklist. The requirements for bed capacity, bed occupancy, and theater capacity tutorial rooms for students, among other critical infrastructure requirements, are included in the standards and detailed below by department.

2.3 Level Two Teaching Hospital education and research manager

Level Two Teaching Hospitals must have an Associate Dean who has relevant qualifications, including both teaching and research experience, as per the university requirements. The Associate Dean must be part of the Faculty Board.

2.4 Heads of Departments

All heads of departments will serve both as clinical and academic heads. The heads of the departments will be part of the Academic Specialty Board. The heads of departments will be allocated a certain amount of time for both clinical work and teaching, as defined in their contract. Within the Level Two Teaching Hospitals, a new position that will oversee teaching coordination and quality assurance must be established to ensure that heads of departments have the support needed to balance their time between their clinical and teaching responsibilities.

2.5 Dual or joint appointment of staff

Professional staff in Level Two Teaching Hospital and teaching department shall be appointed as both clinicians and clinical teaching faculty, required to train students as a part of their regular duties.

2.6 Relationship Between a Level Two Teaching Hospital and the University.

A Level Two Teaching Hospital must ensure that the expected learning outcomes for students are monitored and reported to the university as per the requirements including regular student assessment and logbooks.

2.7 Core Services at a Level Two Teaching Hospital

A Level Two Teaching Hospital should fulfill the following core requirements set by the MOH: Internal Medicine, Surgery (including Operating Theatres), Pediatrics and Neonatology, Gynecology, Accident and Emergency, ICU, Outpatient Clinics, Biomedical Laboratory, Radiology and Imaging, Ear, Nose & Throat (ENT), Dentistry, Ophthalmology, Pharmacy, Physical and Functional Rehabilitation Services, Biomedical Engineering and Maintenance, and Nutrition. Level Two Teaching Hospitals may also provide additional core services beyond these requirements for accreditation.

2.8 Specific Enabling Policy and Procedures

For the purpose of ensuring continuity of learning opportunities, the following specific policies and procedures should be developed: (i) Consumables, (ii) Infection prevention and control, (iii) Occupational health and safety, and (iv) Staffing norms.

In addition, the following resources must be included in the Level Two Teaching Hospital, both to ensure that trainees are provided with equipment and infrastructure necessary for their clinical education, and also that patients have access to quality medical and diagnostic services: (i) Resource centers including use of ICT, (ii) 24-hour Diagnostic Imaging, (iii) 24-hour Biomedical Laboratory; (iv) Outpatient clinics, (v) Inpatient wards, (vi) 24-hour Pharmacy and (vii) Ambulance, referral system and emergency.

STANDARD 3: RESOURCES

Level Two Teaching Hospital shall have appropriate physical teaching facilities for the number of staff and students as approved by the MOH through HRH Secretariat.

3.1 Physical Resources

The requirements for physical infrastructure for a Level Two Teaching Hospital include: (i) Administrative offices including coordinator of health professionals education (minimum area of 12 M^2) and Head of Department offices (minimum area of 16 M^{2}each), (ii) Lecture and tutorial rooms with a minimum of 24 M^2 or 2 M^2 per student, audio and visual facilities in each lecture room, an adequate number of chairs and tables to meet the target number of students, and appropriate lighting and ventilation, (iii) Adequate sanitary facilities for staff, students and patients (iv) Infrastructure accessible for people with disabilities.
There should be documented evidence that the Level Two Teaching Hospital has evaluated the adequacy of the size and overall layout of the hospital and organized the space so that all departments and services are positioned for optimal quality service delivery.

3.2 Education Support Resources

The following education support resources are mandatory in Level Two Teaching Hospitals: (i) access to physical and digital library, (ii) Reliable internet access and ICT services such as projector, and (iii) provision of appropriate postmortem facilities within the hospital mortuary are recommended but not required for accreditation.

3.3 Human resources for Training

Each training site will be required to have a minimum number of qualified teaching staff including, but not limited to: Coordinators of health professionals education, Head of Department for each core service, specialists in relevant domains as well as other healthcare professionals as per the present standards. Each accredited specialty rotation must have a minimum of two specialists for medical education or two accredited trainers for other health professional education.

3.4 Clinical departments consolidated resources & indicators
Each Department/Unit/must have a computer and printer.

3.4.1 INTERNAL MEDICINE		
Services	**Item**	**Requirement Criteria**
3.4.1.1 Inpatient	No. of inpatients last month	(150)
	Number of Beds	(40)
	Mean hospital stay	(5)
	Tutorial room	(1)

	Nurses' station	(1)
	Physicians' station	(1)
	Allied health professionals' station	(1)
3.4.1.2 Medical outpatient clinic		
3.4 1.2.1 Equipment and essential materials	Consultation rooms	(2)
	Triage	(1)
	Stethoscope	(4)
	BP machine	(4)
	Mobile lamp	(2)
	Patella Hammer	(2)
	Otoscope	(2)
	Ophthalmoscope	(2)
	Stationery	(2)
	X-ray view box	(1)
	Desk	(2)
	Chairs	(2)
	Examination couch	(2)
	Examination tray	(2)
	Resuscitation trolley with defibrillator	(1)
	Glucometer	(1)
3.4 1.2.2 Personnel	No. Of physicians (Specialists): Minimum 2, ideal 4	(2)
	No. of General Practitioners	(5)
	Specialist nurses or equivalent ideal 2 but not mandatory	(2)
	Registered Nurses:	(16)
3.4.2 PAEDIATRICS		
3.4.2.1 Wards	No. of beds	(30)
	No. of nurses	(20)
	No. of specialist nurses/equivalent	(3)

	Number of GPs	(4)
	No. of inpatients last month	(250)
	Total no. of hospitalization days in last month	(refer to bed occupancy rate if <60%=0, if above 60 and <70%=1, if >70=2)
	Tutorial room	(1)
	Nurses' station	(1)
	Physicians' station	(1)
3.4.2.2 Examination rooms	No of consultation rooms	(2)
	Triage room	(1)
3.4.2.3 Equipment and other essential materials	Stethoscope	(2 for nurses)
	BP machine	(3)
	Mobile Lamp	(3)
	Tongue depressors (available)	
	Patella Hammer	(3)
	Otoscope	(4)
	Ophthalmoscope	(1 per room)
	Stationery	(1)
	X-ray view box	(1per room)
	Desk	(1 per room)
	Chairs	(3 per room)
	Examination couch (1 per consultation room)	
	Examination tray	(2)
	Waiting area seats	(10 seats)
3.4.2.4. Specialists	Mandatory pediatricians (2) 4 Recommended	(4)
3.4.3 NEONATOLOGY		
3.4.3.1 Wards	Beds	(30)
	Nursing station	(1)

	Physicians' station	(1)
	Sluice room	(1)
	Breast milk room	(1)
	Kangaroo care room	(1)
	Tea room	(1)
	Store room	(1)
	Washrooms (Staff & Patients)	(4)
3.4.3.2 Equipment and Essential Materials	Incubator	(10)
	Radiant warmers	(5)
	Phototherapy lamps	(3)
	Breast milk fridge	(1)
	Resuscitation trolley	(1)
	UPS (Uninterrupted Power Supply)	(1)
3.4.3.3 Clinical Staff	Neonatologist	(1)
	Specialist Neonatology nurses	(2)
	Nurses	(1:4 Ratio)
3.4.4 GENERAL SURGERY		
3.4.4.1 Wards (with separate children, men and women)	No. of GPs	(4)
	No. of inpatients last month	(250)
	Total no. of hospitalization days in last month	(refer to bed occupancy rate if <60%=0, if above 60 and <70%=1, if >70=2)
3.4.4.2 Examination rooms	Tutorial room	(1)
	No of consultation rooms	(2)
	Plaster room	(1)
	Triage room	(1)
3.4.4.3. Equipment and Essential materials	Stethoscope	(2 for nurses)
	BP machine	(3)
	Mobile Lamp	(3)

	Tongue depressors	(available)
	Patella Hammer	(3)
	Otoscope	(4)
	Proctoscope	(1)
	Ophthalmoscope	(1 per room)
	Stationery	(1)
	X-ray view box	(1per room)
	Desk	(1 per room)
	Chairs	(3 per room)
	Examination couch	(1 per consultation room)
	Examination tray	(2)
	Waiting area seats	(10 Seats)
3.4.4.4. Specialists	Mandatory general surgeons	(2)
	Other surgeons not mandatory	(2)
3.4.5 OBSTETRICS AND GYNAECOLOGY		
3.4.5.1 Maternity wards	Total no. of midwives	(58)
	No of GP	(5)
3.4.5.1.1 Antenatal wing	No. of beds	(15)
3.4.5.1.2 Postnatal wing	No of beds	
3.4.5.1.2.1 Normal delivery	No of beds	(10)
3.4.5.1.2.2 Post Cesarian section	No of beds	(10)
3.4.5.1.2.3 Infection normal delivery	No of beds	(10)
3.4.5.1.2.4 Infection post Cesarian section	No of beds	(10)
	Patients monitors	(10)

	Breastfeeding room	(1)
	Family waiting room	(1)
3.4.5.2 Triage/Admission	No. of examination beds	(4)
	CTG Monitors	(4)
	Ultrasound machine	(3)
	Displayed emergency SOP	(2)
	Doppler machine	(3)
	Fetoscope	(3)
	Computer for Electronic Registration	(1)
	Cupboard for medication	(1)
	Medication Trolleys	(3)
	Emergency trolley	(1)
	Patients monitors	(4)
	Waiting area	(10 seats)
03.4.5.3 Labour ward	No of beds	(6)
	CTG Monitors	(6)
	Ultrasound machine	(1)
	Displayed emergency SOP	(1)
	Doppler machine	(5)
	Fetoscope	(10)
	Computer for Electronic Registration	(1)
	Cupboard for medication	(1)
	Medication Trolleys	(5)
	Emergency trolley	(1)
3.4.5.4 Delivery room	No of delivery beds	(6)
	Oxygen cylinder/ wall oxygen	(3)
	Baby resuscitation table	(6)
	Radiant warmer	(6)
	Aspirator	(4)
	Ambu Bag for newborn	(6)

	Ambu Bag for mother	(6)
	No of Delivery kits	(50)
	Vacuum extractor	(3)
	Measuring tape	(6)
	Mobile lamp for delivery	(4)
	Weighing scale	(3)
	Linen	(available)
	Monitor/Fetoscope monitors)	(3)
	CTG Machine	5
	Dopples	5
	Fetoscope	5
	Adult Resuscitation trolley	1
	Emergency trolley	1
	Cupboard for controlled medication	1
	Cupboard for each delivery room for arrangement	
3.4.5.5 Gynecological outpatient Clinic Equipment and essential materials	No. of consultation rooms	(2)
	Triage	(1)
	No of midwives	(2)
	Stethoscope	(3)
	BP machine	(3)
	Mobile Lamp	(2)
	Stationery	(1)
	Desk and chairs/room	(1 Desk and 4 Chairs per room)
	Waiting Chairs	(20 seats)
	Examination couch	(2)
	Linen (Disposable)	(available)
	Height scale	(2)

	Weighing scale	(2)
	Measuring Tape	(12)
	Thermometer	(4)
	Monitor/Fetoscope	(3)
	Examination tray with speculums	(4)
	Ultrasound machine	(2)
	Family planning trays	(2)
3.4.5.6 Specialists	Mandatory minimum No. of obstetrician/gynecologists	(2)
3.4.6 MENTAL HEALTH		
3.4.6.1 Triage	Waiting room	(1)
3.4.6.2 Wards	No. of beds	(6)
3.4.6.3 Outpatient consultation	Patients/per day	(10)
3.4.6.4 Examination rooms	Counselling room	(1)
	Consultation room	(1)
	Secure room	(2)
3.4.6.5 Equipment and essential materials	Stethoscope	(4)
	BP Machine	(4)
	Mobile lamp	(2)
	Stationery	(1)
	Desk and office chairs	(1 Desk and 3 office chairs per room)
	Chairs	(20 seats)
	Examination couch	(5)
	Examination tray	(5)
	Linen (Disposable)	(available)
3.4.6.6 Personnel	Mental health officer	(2)
	Clinical Psychologist	(2)

3.4.7 OPERATING THEATRES		
3.4.7. 1 Operating room	No. of functional theatres	(4)
3.4.7.1.1 Equipment and Essential equipment	No. of Anesthesiology machines	(5)
	Cardiac Monitors	(8)
	Operating tables	(4)
	Suction machines	(6)
	Fluids stands	(15)
	Diathermy (electric)	(4)
	No. of Scialitic lamps	(8)
	Wall Oxygen and Cylinder	(8)
	No. of surgical kits for each type of operation	(2 kit per operation)
	Autoclaves	(2)
3.4.7.2 Post Anesthesia Care unit	No of rooms	(2)
3.4.7.2.1 Equipment and essential materials	No of beds	(4)
	Wall Oxygen and cylinder	(4)
	Cardiac Monitors	(4)
	Suction machines	(3)
	Resuscitation tray	(4)
	Fluids stands	(4)
	BP Machine	(4)
	Stethoscopes	(4)
	Thermometers	(4)
	Ophthalmoscope	(4)
3.4.7.3 Personnel	Nurses	(18)
	Anesthesiologists (MDs)	(2)
	Anesthetists (NPA)	(12)
3.4.8 ACCIDENT AND EMERGENCY		
3.4.8.1 Triage	Number of Beds	(10)
	No of nurses	(16)
	BP machine	(8)

	Thermometer	(10)
	Stethoscopes	(10)
	Weight scale	(2)
	Height Scale	(2)
	Oxymeter	(20)
	Otoscopy	(10)
	Fundoscopy	(5)
3.4.8.2 Bay area	No of wheelchairs	(5)
	No of stretches	(5)
	Fluids stands	(10)
3.4.8.3 Examination room (2)	Resuscitations trays	(10)
	Wall Oxygen and Cylinder	(10)
	Suction machine	(8)
	Suture packs	(30)
	Scissors	(30)
	Mobile Lamp	(7)
	Tongue depressors	(10)
	Needles, cannulars, sample bottles	(10)
	Catheters, NG tubes, infusion sets etc.	(10)
	Laryngoscope	(7)
	Strappings	(2)
3.4.8.4 Resuscitation Room	Cardiac monitor	(2)
	Defibrillator	(2)
	Resuscitation trolley	(2)
	Oxygen	(2)
	Suction machine	(2)
3.4.8.5 Minor Surgery theatre	Procedure table	(1)
	Mobile Lamp	(1)
	Wall Oxygen. Cylinder	(5)
	Surgical Kits	(1 per operating theatre)

	Theatre/procedure room	(1)
3.4.8.6 Specialists	Trained specialists on ATLS, ACLS, ETAT	(2)
	No. of GPs	(4)
3.4.8.7 Emergency training policy	Availability of training policy and procedures for emergency care (Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS) Emergency Triage Assessment and Treatment (ETAT)	Staff trained on policy and procedures
3.4.9 RADIOLOGY& IMAGING UNIT		
3.4.9.1 Examination rooms	X-ray rooms 2 radiation protected rooms	(2)
3.4.9.2 Equipment	No of Functional X-rays machines	(1)
	Mobile x-ray machine	(1)
	No of ultrasound machines (2)	(2)
3.4.9.3 Safety equipment	Anti-radiation shields Wall and door protection in place	(5)
	Well displayed signage on safety precautions (wherever applicable)	(available)
	Records showing that radioactive waste management systems are in place.	(confirmed)
	Monitoring and records confirming that there is a radiation safety service provider.	(confirmed)
	View boxes	(2)
3.4.9.4 Specialists	Radiologists (Teleradiograph)	(1)
	No. of radiologist technicians	(5)
3.4.10 BIOMEDICAL LABORATORY		
3.4.10.1 Hematology Unit		
3.4.10.1.1 (Essential equipment and Materials)	Full blood count machine	(2)
	UPS (5KVA)	(1)
	Blood Mixer rollers	(2)
	Centrifuge (Electrical eight tubes)	(1)

	ESR Stands (10 Slots)	(2)
	Blood Bank refrigerator	(1)
	Laboratory refrigerators	(1)
	Microscope (Binocular)	(2)
	Neubaeur chambers	(10)
3.4.10.1.2 Examination Rooms	Rooms	(1)
3.4.10.1.3 Personnel	Lab scientists	(2)
3.4.10.2 Bacteriology Unit		
3.4.10.2.1 **Equipment and Essential Materials**	Microscopes (Binocular)	(2)
	Gram Staining kits	(2)
	Incubators 37^0c	(1)
	Water bath	(1)
	Hotplate	(1)
	Antibiogram Dispenser	(2)
	Analytical Balance	(1)
	Anaerobic jar	(2)
	Bunsen Burners	(2)
	Inoculating wire loops	(10)
	Timers	(2)
	Culture media including but not limited to the following (BA, Maconkey Agar, MSA, CLED, Gelose Chocolate, Kligrel, Blood culture enriched medium, Mueller Hinton)	(500 mg for each media)
	Biochemical Identification (API 20E or Enterosystem, or Equivalent API NH, ONPG, Optochin, Novobiocin, Catalase test, Coagulase Test	(100 tests for each)
	Different ATB Discs of refer to CLSI Guidelines	2 packages for each
	Biosafety Cabinet Class I	1

3.4.10.2.2 Examination rooms	Rooms	(2)
3.4.10.2.3 Personnel	Lab scientists/Microbiology Specialist	(1)
3.4.10.3 Parasitology Unit		
3.4.10.3.1 Equipment and essential Materials	Binocular Microscope	(4)
	Staining Racks	(2)
	Giemsa Staining	(1L)
	May Grunewald Staining	(1L)
	Kato Kat staining Kit	(1L)
3.4.10.3.2 Examination rooms	Room	(1)
3.4.10.3.3 Personnel	Lab Scientists	(2)
3.4.10.4 Mycobacteriology (TB) Unit		
3.4.10.4.1 Equipment and essential Materials	Immunofluorescence Microscope	(3)
	Biosafety Cabinet class II	(1)
	Staining Package (Auramine)	(1)
	Binocular Microscope	(2)
	Gene-Expert Machine	(1)
3.4.10.4.2 Examination Rooms	Rooms	(2)
3.4.10.4.3 Personnel	Lab Scientist	(1)
3.4.10.5 Clinical Chemistry Unit		
3.4.10.5.1 Equipment and essential materials	Chemistry Analyzer	(2)
	Centrifuge (8 buckets)	(1)
	Refrigerator($2-8^0$c)	(2)
	Deep freezer (-20^0C)	(1)
3.4.10.5.2 Examination rooms	Room	(1)
3.4.10.5.3 Personnel	Lab scientists	(2)
3.4.10.6 Immunology/Serology Unit		

3.4.10.6.1 Equipment and essentials Materials	ELISA Reader	(2)
	ELISA Washer	(2)
	UPS (5KVA) (1)	1
	Incubator	2
	Electrophoresis analyzer	1
	Refrigerators 2-8^{0}C	(2)
	Centrifuge (8 buckets)	(1)
	Incubators	(2)
	Timers	(2)
	Different rapid tests	(Validated tests two for each)
	Anti-Human globulin Kit	(1)
	Pipettes(adjustable) 1-10, 20-100,100-200, 200-1000µL,	(Two for each measure)
3.4.10.6.2 Personnel	Lab Scientist	(2)
3.4.10.7 Quality assurance		
3.4.10.7 .1 Offices	Lab Manager	(1)
	Quality officer/Safety officer	(1)
3.4.10.7 .2 Operation	PT Program	(For all tests)
	Manuals/Policies and procedures	Updated
	Results review and validation	All tests
	Improvement plan	Plan
	Analysis of non-conformities	Incident report
	Quality indicators monitoring (TAT, Stock out, productivity)	QI Monitoring report
	Thermometers	(Wall and refrigerator thermometers for each unit)

	Lab Manager	(1)
3.4.10.7.3 PERSONNEL	Quality officer	(1)
	Safety Officer	(1)
3.4.10.8 Lab Cross Cutting Unit		
3.4.10.8.1 Operation rooms	Stock	(1)
	Sterilization Room	(1)
	Tutorial Room	(1)
3.4.10.8.2 Equipment	Autoclave (120L-200), (20-50 L)	(2)
	UPS central Unit	(1)
	Distiller	(1)
	Deionizer	(1)
	Freezers -70-80^{0}c	(2)
	Freezers -20-40^{0}c	(2)
	Multi head Microscope	(2)
	Centrifuge	(2)
3.4.10.8.2 Personnel	Store Manager	(1)
3.4 11 EAR, NOSE THROAT (ENT)		
Item	**Minimum standard**	**Performance Indicator**
3.4.11.1 Infrastructure	Waiting room	(1)
	Consultation Room	(1)
3.4.11.2 Equipment and Essential Materials	Cholesectomy Kit	(1)
	Bronchoscopy set	(1)
	Tumor instrument set	(1)
	Tympanoplasty instrument set	(1)
	Set for surgery on the septum	(1)
	Set for surgery on the septum	(1)
	Set for dressing and repairing wound	(1)
	Set of laryngoscopes	(1)
	Set of micro-laryngoscopes	(1)

	Head lights	(1)
	Otoscope	(4)
	Tongue depressors	(5)
	Speculum	(2)
	Suction machine	(1)
	Tonsillectomy and adenoidectomy set	(2)
	Oto acoustic Emission (OAE)	(2)
	ENT basic clinic instrument sets	(2)
	ENT clinic endoscopes/lights	(1)
	Clinic ENT microscope	(2)
	ENT treatment unit (cabinet)	(1)
	Tympanometry	(2)
	Electronystagmography (ENG)	(1)
	Brain stem evoked response audiometry (BERA)	(2)
	Patient's chair	(2)
	Doctor's chair	(2)
	Operating magnifier	(1)
	Hearing aid programmer/ hearing aid analyzer	(1)
	Audit base (audiology) software program	(1)
	Head and neck surgery set	(2)
	Incision and drainage set	(2)
3.4.11.3 Personnel	Nurses	(2)
	Medical doctor specialists	(1)

3.4.12 Ophthalmology

Item	Standard	Performance Standard
3.4.12.1 Infrastructure	Waiting area	(1)
	Consultation room	(1)
	Tutorial room	(1)
	Triage/refraction room	(1)

	Investigation room	(1)
	Minor intervention room/Laser room	(1)
3.4.12.2 **Equipment and Essential Materials**	Automated Field Analyser	(1)
	Torch	(2)
	Retinoscope	(2)
	Direct ophthalmoscope	(2)
	Auto-Refractometer	(1)
	Vision charts + Refraction sets	(01)
	Indirect ophthalmoscope with 20D lens	(1)
	Gonio lens	(1)
	Handheld Applanation tonometer	(1)
	A Scan+ Keratometer	(1)
	B Scan	(1)
	Yag laser with Capsulotomy and iridotomy Lenses	(1)
	Argon Laser with appropriate lenses	(1)
	Slit lamp Lens and appla-nation tonometer	(1)
	90 D lens	(1)
	Low vision assessment tools	(1)
	Vision charts to examine children & prisms	(1)
	Operating microscope with camera and screen	(1)
	Cataract surgical sets	(2)
	Minor surgical set	(1)
	Autoclave in theater (Flash)	(1)
	Lensometer	(1)
	Major & minor OT	(1)
	Anterior Vitrectomy machine	(1)
3.12.3 Personnel	Ophthalmologists	(1)
	Ophthalmic clinical officers	(2)

3.4.13 Pharmacy		
3.4.13.1 Infrastructure	Dispensing counters rooms	(2)
	Main distribution Pharmacy	(1)
	Office room	(1)
	Stock	(2)
	Compounding area	(1)
3.4.13.2 Equipment & Materials	Medication carts	(5)
	Pill counters	(3)
	Locked cupboard	(1)
	Refrigerator 2-8°c	(2)
	Freezer (18-20^{0}c)	(2)
	Trolleys, large	(3)
	Trolleys, medium	(3)
	Trolleys, small	(3)
	Cold chain boxes	(4)
	Wall thermometers	(6)
3.4.13.3 Personnel	Pharmacists	(2)
	Clinical pharmacists or equivalent.	(1)
	Nurse/ Pharmacy technicians	(3)
3.4.14 Physical and functional rehabilitation services		
3.4.14.1 Infrastructure	Waiting room	(1)
	Treatments Rooms	(4)
	Consultation room	(1)
	1 Gymnastic room	(1)
3.4.14.2 Equipment and essential Materials	Rock cage (1) and accessoires	(1)
	Rope & Pulley	(10)
	Espalier	(2)
	Advance of espalier	(1)
	Weight (bag 1Kg, 2Kg, 3Kg, 4kg, 5kg) (20)	(2)
	Physioball	(2)
	Vibrator	(3)

Spirometer (Single use)	(20)
TENS (Transcutaneous electrical nervestimulation) machine	(2)
Infrared lamp	(4)
Ultrasound machine	(1)
Treadmill	(1)
Refrigerator	(2)
Medicine Balls - different sizes	(5)
Walking frame	(4)
Standing bars	(2)
Crutches (aluminum)	(2)
Dumbbell set	(1)
Mats, exercise	(4)
Mobile crawler (e.g., PRONE)	(2)
Wrist roll	(5)
Electric tilt table and accessories	(1)
Wobble board	(2)
Quadriceps bench	(2)
Ankle Arc Plus	(2)
X ray viewer	(1)
Goniometer	(4)
Tape measure	(4)
Treatment couch	(4)
Trampoline	(1)
Pedal exerciser	(2)
CPM machine for lower and upper limbs	(2)
E-Z exercise board for fingers	(2)
Digital hand dynamometer	(2)
Stacking cones	(2 sets)

	Upper limb workstation	(2)
	Traction table	(1)
	Pediatric stand positioned	(2)
	Cervical Traction Unit	(1)
	Hand Therapy Small Items	(1 set)
	Ergo stationary bikes	(3)
	Hot and cold packs, standard size	(5)
3.4.14.3 Personnel	Physiotherapist (Msc degree)	(1)
	Physiotherapist	(5)
3.4.15 DENTISTRY		**Requirement Criteria**
3.4.15.1 Infrastructure	Triage and Waiting room	(1)
	Billing station	(1)
	Changing rooms	(2)
	Sterilization room	(1)
	Tutorial room	(1)
	Consultation rooms	(4)
	Tea room	(1)
	Dental X-ray room	(1)
3.4.15.2 **Equipment and other essential Materials**	OPG X-ray	(1)
	CBCT machine (Dental Cone Beam CT) Lead aprons (4)	(1)
	Radio Visio Graphy (RVG) Digital	(1)
	Complete dental chair	(4)
	Sterilization Machine	(2)
	Dental Basic Examination sets	(50)
	Portable Dental operating micro motor kits	(8)
	Impacted wisdom tooth extraction set	(5)
	High speed handpiece	(10)
	Slow speed hand piece (Contra angle)	(10)
	Examination trays	(50)
	Bone file	(10)
	Bone curettes	(10)

	Haemostatic forceps	(10)
	Extraction set for Molars, premolars, canine and incisor (lower & upper) set	(10 for each)
	Root canal treatment sets	(5)
	Endo machine	(2)
	Apex locator	(2)
	Magnifier loops	(4)
	Cement spatula	(20)
	Filling instrument serrated	(40)
	Excavators (four types)	(40)
	Gracey curette	(50)
	Universal Scaler	(50)
	Rubber dam Frame	(15)
	Rubber dam clamps	(15)
	Rubber dam Punch forceps 17 cm	(15)
	Pulp testers	(3)
	Ultrasonic scalers	(8)
	Periodontal curette	(20)
	Periodontal probes	(20)
	Sickle scalers	(20)
3.4.15.3 Personnel	Dental therapists	(3)
	Dental surgeons	(1)
	Dental assistant	(2)

3.4.16 NUTRITION AND DIETICS

Services	Item	Requirement
3.4.16.1 Infrastructure	Consultation room	(1)
	Offices	(1)
	Catering room	(1)
	Nutrition counselling hall	(1)
3.4.16.2 Equipment and	Adult & Baby scales	(2)

other essential materials	BP machine	(2)
	Adult Stadiometer	(2)
	Infant meter (length board)	(2)
	Adult Middle upper arm circumference (MUAC)	(2)
	Infant Middle upper arm circumference (MUAC)	(2)
	Skinfold calipers	(2)
	Tape measures	(2)
3.4.16.3 Clinical Staff	Dietician/Nutritionists	(2)
	Clinical nutritionists	(5)

3.5 STAFFING RATIOS

Health professionals Ratios in Different Departement Level Two Teaching Hospitals				
Nurses and Midwives				
		Recommended staff to Bed Ratio		**Observation**
S/n	**Departement/Units**	Day Shift	Night Duty	
1	General Wards	01:07	01:10	
2	Post recovery without Ventilator Bed	01:02	01:02	
3	Emergency and Trauma with Ventilator Bed	01:01	01:01	
4	Emergency and Trauma/Non Ventilator Bed	01:02	01:02	
5	Labor room	02:01	02:01	**Two Midwife/nurse per labor table**
6	Antenatal ward	01:05	01:04	
7	Postnatal ward	01:05	01:04	
8	Pediatric ward	01:06	01:08	
9	Outpatient patients Dpt	01:50	NA	
10	Infection prevention and control Nurse	1/100	NA	
11	Non communicable disease/Nurse Educators	01:35	NA	
12	Palliative Care	01:05	01:04	
13	Minor Operating Theatre	01:01	NA	
14	Annual leave and other indirect care activities (Documentation, Communication, Meeting, rounds, logistics related activities)	25%	NA	
Medical Doctors				
1	Medical Doctors Specialists	22		
2	Medical doctors General Practionners	24	Per 200 Beds/4 Theatres	

	Surgery Departement	Day shift	Night Shift	Observation
	Anesthetists	4: 4 Theatres	2: 2 Theatres	Every operating Theatre should have an anesthetist

STANDARD 4: STUDENTS MANAGEMENT

There must be policies and procedures on student education and welfare support in place.

4.1 Student education support

The student education support policy should include (i) the student induction and orientation plan (teaching plan), (ii) the mentorship development plan (including training of trainers in medical education pedagogy and mentorship), and (iii) career guidance.

4.2 Student welfare support

Every effort should be made to (i) ensure students are covered with adequate health insurance, (ii) an active student support desk is available, (iii) a health professional student dress code is established and enforced, and (iv) appropriate student accommodation for housing and meals is available.

STANDARD 5: QUALITY ASSURANCE

To monitor the quality of education that students receive, additional steps must be taken by the leadership of the Level Two Teaching Hospital.This should include, but is not limited to, the following criteria:

5.1: Teaching plan compliance

The associate dean, and respective head of departments shall monitor the progress and compliance on the teaching plan.

5.2 Annual M&E report

The Level Two Teaching Hospital must prepare an annual monitoring & evaluation report (M&E) for training activities. HRH Secretariat shall review the annual monitoring and evaluation (M&E) reports submitted by the Level Two Teaching Hospitals.

5.3 Annual review of LTTH

The teaching institution shall carry out an annual review of all Level Two Teaching Hospitals to ensure compliance to the health education standards.

5.4 Assessment and accreditation of LTTH

HRH Secretariat shall conduct a thorough inspection and assessment of the Level Two Teaching Hospitals at least once every three years, with renewal of the accreditation certificate if inspections/surveys are satisfactory.

STANDARD 6: RESEARCH AND INNOVATION

The Level Two Teaching Hospital is required to show evidence of promoting quality research and innovation. Each Level Two Teaching Hospital shall have policies and procedures on research including training, facilitation, and key performance indicators.

6.1 Operational annual research agenda.

Each training department shall provide an annual research agenda.

6.2 Criteria: Publication outcome

Each teaching department must provide evidence of one publishable research paper per year.

6.3 Criteria: Grant application

Each training site should provide evidence of at least one research hospital grant application per year.

6.4 Criteria: Incentives

Each training site should provide incentives (such as attending national or International scientific conferences) for the staff that successfully publish a scientific paper.

6.5 Criteria: Research conference

On a rotational basis, each training site should host an annual scientific event bringing together sister training sites and teaching hospitals.

7. REFERENCES

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8. ANNEXES

8.1 EDITORIAL TEAM

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8.2 Assessment Checklist Level Two Teaching Hospitals Standards