

Function	Cadre	Proposed number	Criteria
	Anaesthesiologist (Intensive Care)	2	Average of 3 open heart operations per day 3 shifts per day 5 operating theatres per day 2 surgical intensive care units
	Perfusionist	2	
	Anaesthesiologist (Cardiac)	2	
	Anaesthesiologist	4	
	Nursing officer	15	
Operating Theatre	Nursing officer	10	Average of 80 major operations per day 10 emergencies daily, Shifts
	Assistant Nursing officer	30	
	Medical attendant	20	
Central Sterilization and Supplies	Nursing officer	1	Average of 1,500 items per day 3 shifts per day
	Assistant Nursing officer	5	
	Medical attendant	20	
Obstetrics & Gynaecology	Gynaecologist (Oncology)	2	90 in patients daily, 3 shifts per day Average of 30 mothers ante natal observations per day Average of 5 mothers on semi intensive pre ecliptic care daily Average of 5 patients post gynaecological operations per day
	Gynaecologist (Fetal Medicine)	2	
	Gynaecologist (Endocrinology)	2	
	Gynaecologist (Urology)	2	
	Gynaecologist	6	
	Medical Officer	3	
	Nursing officer	30	
	Nursing Officer (Specialized in Midwifery)	10	
	Assistant Nursing Officer	60	
Medical attendant	36		
Labour Ward	Nursing Officer (Specialized in Midwifery)	10	Average of 30 admissions daily, 3 shifts per day Average of 20 deliveries per day Average of 5 caesarean sections (assisting) per day,
	Assistant Nursing officer	20	
	Personal Secretary	1	
Ophthalmology	Oncologist	1	Average of 90 in patients per day Average of 2,000 out patients per month Average of 7,600 outreach patients per annum Average of 1,740 cataract operations per annum Average of 20 eye operations per day Average of 440 paediatric cataract operation per annum
	Ophthalmologist (Retina)	1	
	Ophthalmologist (Paediatrics)	1	
	Ophthalmologist (Oculo-Plastic)	1	
	Ophthalmologist (Glaucoma)	1	
	Ophthalmologist	8	
	Optician	6	
	Ophthalmologist (retinal)	1	
	Ophthalmologist (Neuro)	1	
	Ophthalmologist (Cornea)	1	
	Pathologist (Ocular)	1	
	Nursing Officer	5	
	Nursing Officer (Ophthalmic)	5	
	Nursing officer theatre)	8	
Assistant Nursing Officer	25		
Medical Attendant	10		
Ear, Nose and Throat	Oncologist	1	Average of 30 inpatients per

Function	Cadre	Proposed number	Criteria
	ENT Specialist	4	day 3 shifts per day Average of 5 operations per day Average of 5300 out patients annually Average of 5 critically ill patients in hygienic care per day Average of 5 patients on care of tracheotomy per day
	Speech Therapist	1	
	Audiometrist	1	
	Nursing officer	5	
	Assistant Nursing Officer	15	
	Medical Attendant	10	
	Personal Secretary	1	
Community Health	Public Nursing officer	10	Health education daily in 21 units
	Assistant Nursing Officer	10	
	Health Officer	1	
	Medical Attendants	2	
Radiology	Radiologists	2	Average of 90 different X rays examinations per day Average of 56 ultra sonography per day Average of 10 CT Scan examinations per day 2 Mammography machines, 1 ICT scanner, 4 Basic X ray machines, 4 Ultrasound, 1 ECHO Machine
	Radiologist (Paediatric)	1	
	Radiologist (Interventional)	1	
	Radiologist (Nuclear Medicine)	1	
	Radiologists	3	
	Biomedical Engineer	1	
	Physicist	1	
	Radiographers	10	
	Assistant Nursing Officers	3	
	Medical Attendants	6	
	Personal Secretary	1	
Clinical laboratory	Laboratory Scientist (Haematology)	8	Average of 400 haematological tests per day, Average of 300 biochemistry tests per day, Average of 70 microbiological tests per day
	Laboratory Technologist (Haematology)	3	
	Laboratory Assistant	2	
	Medical attendant	1	
Microbiology laboratory	Microbiologist	1	Average of 70 serology tests per day Average of 50 CD4 count tests per day Average of 10 DNA tests per day Average of 200 parasitological tests per day Average of 50 blood transfusions, 2 shifts per day
	Laboratory Scientist - Microbiology	1	
	Laboratory. Technician	3	
	Laboratory. Assistant	1	
	Medical attendant	1	
Bio-chemistry laboratory	Clinical Chemist	1	Average of 10 DNA tests per day Average of 200 parasitological tests per day Average of 50 blood transfusions, 2 shifts per day
	Laboratory scientist	2	
	Laboratory technologist	3	
	Laboratory assistant	1	
	Medical Attendant	1	
Parasitology & entomology Laboratory	Parasitologist	1	Average of 100 histology examinations per day
	Laboratory scientist	1	
	Laboratory technician	3	
	Laboratory assistant	1	
	Medical Attendant	1	
Pathology	Histopathologist (Medical Doctor)	3	Average of 100 histology examinations per day

Function	Cadre	Proposed number	Criteria
	Paedopathologist	1	Average of 80 cytology examinations per day Average of 5 post mortems per day
	Cytologist	1	
	Laboratory Scientist	1	
	Laboratory technologist (Histology)	1	
	Mortuary attendants	8	
	Personal Secretary	1	
Physiotherapy	Physiotherapist	14	Average of 80 in patients' treatments per day Average of 100 outpatient treatments per day,
	Medical Attendant	4	
Occupational Therapy	Occupational Therapist	1	Average of 30 patients per day
	Medical Attendant	3	
Orthopaedic workshop	Orthopaedic Engineer	1	Average of 120 different types of Prostheses per year Average of 500 different types of outhouses per year Average of Orthopaedic school sandals 200 pairs per year Average of 45 wheel chairs per year Average of 470 different orthosis per year, Average of 55 orthopaedic shoes per year
	Orthopaedic Technologist	8	
	Medical Technician (Wheelchair)	4	
	Medical Attendant	5	
Medical records	Medical recorder	38	Retrieve and re- store average of 800 out- patient files per day Register average of 100/ day code and classify diseases of average of 80 -90 discharged patients daily Analyse patients data
	Statistician	1	
Pharmacy	Pharmacist	8	Making an average of 450 bottles per day Attend to an average of 600 out patients and 200 in patient's prescriptions per day Compound an average of 30 samples of different drugs per day
	Pharmaceutical Technologist	6	
	Medical Attendant	11	
	Personal Secretary	1	
<b>Total</b>		<b>1,634</b>	

## Summary of Human Resource Required for KCMC Hospital

Cadre/title		No
Executive Director		1
Director Hospital Services		1
Director Research and Training		1
Medical Officers	Medical Emergency Specialist	2
	Medical Specialist	1
	Physician	6
	Dental Consultant	1
	Medical Officers	23
	Medical Officer (Leprosy and Prevention)	1
		<b>34</b>
Nurses	Director Nursing Services	1
	Assistant Nursing Officer (Intensive Care)	10
	Assistant Nursing Officers	442
	Nurse officer (Critical Care)	15
	Nurses officer (Psychiatry)	3
	Nursing Officer (Midwifery)	20
	Nursing officer (Ophthalmic)	5
	Nursing officer (Paediatrics)	20
	Nursing officer(Theatre)	8
	Nursing Officers	152
	Public Nursing officer	10
	Renal dialysis nurse	5
		<b>691</b>
Gynaecologist	Gynaecologist	6
	Gynaecologist/Endocrinology	2
	Gynaecologist (Faetal Medicine)	2
	Gynaecologist (Oncology)	2
	Gynaecologist (Urology)	2
		<b>14</b>
Allergologist		1
Anaesthetists	Anaesthesiologist	4
	Anaesthesiologist (Intensive Care)	2
	Anaesthesiologist (Paediatric)	1
	Anaesthesiologist (Cardiac)	2
		<b>9</b>
Biomedical Engineer		2
Cardiologist		2
Cytologist		1
Dermatologists	Dermatologist (Public Health)	1
	Dermatologist-Venereologist	7
		<b>8</b>
Endocrinologist		2

<b>Cadre/title</b>		<b>No</b>
ENT Specialist		4
Gastroenterologist		3
Geriatricist		1
Laboratory Personnel	Laboratory Technologist (Histologist)	1
	Laboratory Technologist (Haematologist)	3
	Laboratory Scientist (Haematology)	8
	Laboratory Scientists	4
	Laboratory Technologist	3
	Laboratory Assistants	5
	Laboratory Technician	6
	Microbiology Laboratory Scientist	1
		<b>31</b>
Microbiologist		1
Oncologist		4
Ophthalmologist		8
Orthodontist		1
Orthopaedic Engineer		1
Orthopaedic Technologist		8
Parasitologist		1
Paediatrician		6
Periodontist		1
Pharmaceutical Technologist		6
Pharmacist		8
<b>Total</b>		<b>14</b>
Prosthodontist		1
Provost		1
Pulmonologist		2
Radiologists	Radiologist (Interventional)	1
	Radiologist (Nuclear Medicine)	1
	Radiologist (Paediatric)	1
	Radiologists	5
		<b>8</b>
Rheumatologist		1
Surgeons	Surgeon	1
	Surgeon (Arthroplastic)	2
	Surgeon (Dermatology)	2
	Surgeon (Maxillofacial)	1
	Surgeon (Neuro-Orthopaedic)	1
	Surgeon Orthopaedic	6
	Surgeons (General)	2
	Surgeons (Paediatrics)	2
	Surgeons (Reconstructive)	2
	Surgeons (Vascular)	2

Cadre/title		No
	Surgeons (Cardiothoracic)	2
	Surgeons (Dental)	4
	Surgeons (Laparoscopic)	2
		<b>29</b>
Haematologist/Oncologist		2
Histopathologist (Medical Doctor)		3
Neonatologist		2
Nephrologists		2
Neurologist	Neurosurgeons	2
	Neurologist	2
		<b>4</b>
Ophthalmologists		1
	Ophthalmologist (Glaucoma)	1
	Ophthalmologist (Neuro)	1
	Ophthalmologist (Oculo-Plastic)	1
	Ophthalmologist (Paediatric)	1
	Ophthalmologist (Retina)	2
		<b>7</b>
Paedopathologist		1
Pathologists	Pathologist (Dermatology)	2
	Pathologist (Ocular)	1
		<b>4</b>
Paediatrician	Paediatric Haematologist	1
	Paediatrician (Endocrinology)	1
	Paediatrician (Cardiology)	1
	Paediatrician (Nephrology)	1
	Paediatrician (Neurology)	1
		<b>5</b>
Urologist	Urologist (Paediatric)	2
	Urologist	3
	Urologist (Reconstructive)	1
		<b>6</b>
Non - Medical Professionals	Accountant	10
	Accounts Assistant	15
	Procurement Officers	5
	Auditors	3
	Boiler operator	4
	Chief Accountant	1
	Chief Internal Auditor	1
	Civil Engineer	1
	Computer Systems Analyst	10
	ICT Technicians	2
	Director Finance	1
	Director Human Resource & Administration	1

<b>Cadre/title</b>		<b>No</b>
	Plumber	2
	Public Relations Officer	1
	Social Welfare Officer	3
	Statistician	1
	Transport officer	1
	Human Resource Officers	11
	Library Assistant	7
	Electrical Engineer	1
	Legal Officer	1
	Mechanical Engineer	1
	Technicians (mechanics)	2
	<b>85</b>	
Health Officer		1
Infectious Diseases Specialist		2
Nutritionist		2
Occupational Therapist		7
Optician		6
Perfusionist		2
Physiotherapist		14
Radiographers		10
Speech Therapist		1
Audiometrist		1
Biomedical technicians		4
Clinical Chemist		1
Nursing Officer		1
Medical Recorder		38
Medical Technician (Wheel Chair)		4
Medical Attendants		279
Mortuary attendants		8
Support Staff	Office Attendant	33
	Data Entry Clerks	4
	Catering officer	2
	Cook	2
	Kitchen Attendant	30
	Dhobi	20
	Personal Secretary	34
	Receptionists	4
	Security Guards	81
	Tailor	7
	Telephone Operators	8
Drivers	14	
	<b>239</b>	
<b>Total Human Resource for Health Required for KCMC Hospital</b>		<b>1,634</b>

## 6.3 Bugando Medical Centre

### Introduction

Bugando Medical Centre (BMC) is a referral hospital for the Lake Zone area. The hospital serves seven regions namely; Mwanza, Kagera, Mara, Geita, Shinyaga, Tabora, Simiyu and Kigoma. The hospital has 900 beds and over 1000 employees. BMC is also a teaching hospital with a University and a number of paramedical schools, which forms a Bugando College of Health Sciences (BUCHS). The paramedical schools are-Assistant Medical Officers Training, Pharmaceutical Technician Training, Radiographic Technician Training, Laboratory Technician Training and Nursing Officer General Training.

This hospital is owned by Tanzania Episcopal conference (TEC). Its recurrent cost is being met by the Government following an agreement between the Ministry of Health and TEC.

**Table 7: Staffing Level for Bugando Hospital**

Function	Cadre	Proposed Number	Criteria
<b>ADMINISTRATION DEPARTMENT</b>			
Management	Director General	1	Manages a hospital with over 2000 employees
	Public Relations Officer	5	
	Internal Auditor	10	
	Assistant Internal Auditor	5	Internal financial control
	Legal Officer	3	
	Director of Community Health, Research& Consultancy	1	
	Director of Medical Services	1	
	Director of Allied Health Science Schools	1	
	Director of Nursing Services	1	
	Director of Planning and Finance	1	
	Director of Administration and Human Resources	1	7 Directorates, 2 Typing Pools
<b>SUB TOTAL</b>	<b>30</b>		
Planning and Finance	Accountant	15	Strategic plans, Budgeting, Financial Management Quarterly financial report Semi annual financial report Annual Financial Report/Three shifts 20 Cost Sharing Collection Centers
	Assistant Accountant	20	
	Accounts Assistant	50	
	Planning Officer	4	
	<b>SUB TOTAL</b>	<b>89</b>	
Procurement and Supplies	Procurement and Supplies Officer	15	8 Manage stores, Order and Receive and supply 100 Over Transaction per day
	Assistant procurement and Supplies Officer	10	
	<b>SUB TOTAL</b>	<b>25</b>	

Function	Cadre	Proposed Number	Criteria
Medical Records	Statistician	5	Retrieve and re- store average of 1000 out- patient files per day Register average of 200 per day
	Assistant Medical Record Officer	6	Code and classify diseases of average of 90 -110 discharged patients daily
	Medical Record Technician	24	Analyze patients data
	<b>SUB TOTAL</b>	<b>35</b>	
Information Technology	System Administrator	5	Handling over 300 computers in the hospital.
	ICT-Officer	10	
	Computer Data Entry Operator	24	
	<b>SUB TOTAL</b>	<b>39</b>	
Administrative Services	Health Secretary	2	Over -2000 employees
	Environmental Health Officer	1	Semi annual reports
	Registry Clerk	10	Annual reports Annual budget
	Office Secretary	25	7 Directorates,2 Typing Pools
	Office Assistant	20	7 Directorates
	Human Resources Officer	10	Serve over 2000 employees
	Administrative Officer	2	Coordinate staff appraisal Recruitment and development
	Social Welfare Officer	6	Attend over 200 in/out patients
	Chaplain	3	Serve over 2000 staff and patients
	Receptionist	6	3 Receptions 2 Shifts
	Telephone Operators	12	3 Shifts 2 Switch Board 300 extensions
	Warden	3	Attend more than 500 students
	<b>SUB TOTAL</b>	<b>100</b>	
Security Services	Security Officer	5	15 Security points, 100 CCTV Camera to be installed 4 Control centers. 3 Shift per day
	Security Guard	40	
	CCTV-Operators	10	
	<b>SUB TOTAL</b>	<b>55</b>	
Transport	Transport Officer	2	20 Motor vehicles,2 Shifts
	Drivers	25	
	<b>SUB TOTAL</b>	<b>27</b>	
Catering	Nutritionist	3	Plan three meals per day for more than 1500 clients 14 hrs service delivery Two Shifts per day
	Catering Officer	8	
	Cook	20	
	Kitchen Attendant	20	
	<b>SUB TOTAL</b>	<b>51</b>	
Laundry	Clinical Laundry (Dhobi)	25	4500 linen per day,2 shifts per day
	<b>SUB TOTAL</b>	<b>25</b>	
Surgical Clinic/In patients	General Surgeons	20	2 shifts per day 6 Operating Theatres and 5 new expected Operating Theatres in future. 300 average inpatients per day 500 average outpatients per
	Pediatric Surgeon	5	
	Urologist	6	
	Orthopedic Surgeon	12	
	Cardiothoracic Surgeon	4	
	Plastic Surgeon	2	

Function	Cadre	Proposed Number	Criteria
	Neurosurgeon	4	day. Plan to expand surgical OPD services to cater 800 clients per day. 10 Consultation rooms Ward rounds
	Medical Officer	20	
	Nursing Officer (Clinics only)	6	
	Assistant Nursing Officer (Clinic Only)	10	
	Medical Attendant (Clinic Only)	7	
	<b>SUB- TOTAL</b>	<b>96</b>	
Internal Medicine Clinic /In patients	Gastroenterologist	4	500 average outpatients per day Average of CTC 200 client Average of 155 inpatients per day 3 shifts per day Ward rounds
	Cardiologist	4	
	Endocrinologist	4	
	Nephrologists	4	
	Dermatologist	4	
	Neurologists	4	
	Infectious Disease Specialist	2	
	Physician	20	
	Medical Officer	20	
	Nursing Officer (Clinics only)	6	
	Assistant Nursing Officer (Clinic only)	10	
	Medical Attendant (Clinic only)	4	
	<b>SUB TOTAL</b>	<b>86</b>	
Obstetrics /Gynecology Clinic and In patients	Obstetrician/ Gynecologists	15	Average of 200 obstetrics outpatients daily Average of 150 inpatients Two shift daily 5 Consultation rooms
	Gynecological Oncologist	4	
	Gynecological Urologist	2	
	Gynecological Endocrinologist	2	
	Maternal Fetal Medicine Specialist	2	
	Medical Officer	10	
	Nursing Officer (Clinic Only)	6	
	Medical Attendant (Clinic only)	4	
	Ass.Nursing Officer (Clinic only)	10	
		<b>SUBTOTAL</b>	
Pediatrics Clinic and In patients	Neonatologist	4	Average of 250 outpatients Average 200 inpatient per day Average of Paediatric CTC 100 client Two shift daily 8 clinical consultations rooms Ward rounds
	Pediatrician	15	
	Pediatric Hetologist	2	
	Pediatric Oncologist	4	
	Pediatric Surgeon	6	
	Pediatric Nephrologists	2	
	Medical Officer	20	
	Nursing Officer (Clinic only)	5	
	Assistant Nursing Officer (Clinic only)	10	
	Medical Attendant (Clinic only)	6	
		<b>SUB TOTAL</b>	
Mental Health Clinic	Psychiatrist	4	3 shifts per day Average 50 inpatients per day Average patients is 50 outpatients per day Average of 15 EEG procedures daily
	Clinical Psychologist	3	
	Occupational Therapist	3	
	Child Psychologist	3	
	Medical Officer	8	
	Social Welfare Officer	3	

Function	Cadre	Proposed Number	Criteria	
	EEG Technician	2	Average of 60 Psychotherapy per day 104 teaching hours annually 1 visit weekly for Outreach services 4 clinical consultation rooms	
	Nursing Officer	3		
	Assistant Nursing Officer	4		
	Medical Attendant	18		
	<b>SUB TOTAL</b>	<b>51</b>		
Oncology clinic/In patients	Radiation Oncologist	4	Average of 30 new cases/day Average of 20 follow up cases/day Average of 70% of cancer patient receive radiotherapy treatment	
	Medical Oncologist	8		
	Paediatric Oncologist	2	Average of 10 new pediatric cases daily Average of 30 follow up pediatric cases/day Average of 40% of Reproductive Medical cancer patients Average of 10 surgical procedures each day Average of 10 surgical procedures each day Average of 150 average inpatients per day Average of 10 new pediatric cases daily Average of 30 follow up pediatric cases/day Ward rounds	
	Gynaecologist Oncologist	2		
	Surgical Oncologist	3		
	Medical Officer	8		
	Nursing Officer	4		
	Assistant Nursing Officer	10		
	Medical Attendant	5		
	<b>SUB TOTAL</b>	<b>46</b>		
Nuclear Medicine Clinic and In patients	Nuclear Medicine Physician	3		Average of 30 patients a day. Services delivery 12 hours Average of 10 procedures performed daily Average of 30 minutes for each procedure Average of 20 patients files are reviewed daily Average of Dispensing radio nuclei Materials to 10patients
	Nursing Officer	4		
	Nuclear Physicists	2		
	Telemedicine Oncologist	1		
	Nuclear Medicine Technologist	4		
	Radio pharmacist	2		
	Nuclear Pharmacist	2		
	Assistant Nursing Officer	4		
	Medical Attendant	3		
	<b>SUB TOTAL</b>	<b>25</b>		
Dental clinics and In patients	Surgeon (Medical maxillofacial)	1	12 hours services Average of 50 clients attended daily Average of 3 surgical procedures daily 104 teaching hours 2 ward rounds per week	
	Dental Surgeon	4		
	Dental Technician	2		
	Medical maxillofacial technician	2		
	Nursing Officer	3		
	Assistant Nursing Officer	6		
	Medical Attendant	4		
	<b>SUB TOTAL</b>	<b>22</b>		
Palliative care	Physician	3	Average of 30 clients (day	

Function	Cadre	Proposed Number	Criteria
	Nursing Officer	4	clinic)
	Assistant Nursing Officer	5	Each consultant attends
	Social Welfare Officer	1	Average of 15 patients
	<b>SUB TOTAL</b>	<b>13</b>	Daily service ward round to palliative care patients (45) with 1-consultant 1 hour of teaching once a week for each specialist Average of 5 households outreach services per day Average of 12 patients attended daily during week days (OPD) 5 clients attended daily Carries focus group discussion twice a week 30-45 minutes
Radiology Services	Radiologist	6	Average of 120 patients per day 3 shifts per day Introduction of specialized investigations MRI to be installed
	Radiographer	20	
	Mould room Technologist	2	
	Technician (Dosimetrist)	2	
	Medical Attendant	4	
	<b>SUB TOTAL</b>	<b>34</b>	
Ophthalmology Services and In patients	Ophthalmologist (Super Spec.)	10	Average of 100 patients per day 2 shifts per day Surgical Services Ward rounds
	Ophthalmologist	6	
	Medical Officer	4	
	Ophthalmic Optician	4	
	Optometrist	6	
	Nursing Officer	4	
	Assistant Nursing Officer	16	
Medical Attendant	12		
	<b>SUB TOTAL</b>	<b>62</b>	
Laboratory Services	Laboratory Technologist	12	Average of 200 Specimen per day, 3 shifts per day 104 teaching hours annually Quality control improvements Planning activities
	Pathologist	6	
	Parasitologist	3	
	Hematologist	3	
	Laboratory Technologist (Microbiology)	3	
	Laboratory Technologist (Parasitology)	3	
	Laboratory Technologist (Histology)	3	
	Laboratory Technologist (Serology)	2	
	Laboratory Scientist	10	
	Medical Attendant	8	
	<b>SUB TOTAL</b>	<b>53</b>	
Mortuary	Prosecutor	5	Mortuary have capacity of 60 dead bodies Average of 6 Postmortem daily 15 dead bodies received daily 3 Shifts
	Mortuary Attendant	18	
	<b>SUB TOTAL</b>	<b>23</b>	

Function	Cadre	Proposed Number	Criteria
Pharmaceutical Services	Pharmacist	50	11- Block Pharmacy 3 shifts per day Average of 1500 prescription/ day. Future expansion of service due to expansion of OPD Clinics and Cancer facility Infusion production ( 104 hours of teaching annually
	Pharmaceutical Technologist	17	
	Medical Attendant	4	
	<b>SUB TOTAL</b>	<b>71</b>	
Physiotherapy	Specialist (Physiotherapist)	4	2 shifts per day Average of 80 patients per daily 52 teaching hours annually Ward rounds
	Physiotherapist	20	
	Occupational Physiotherapist	6	
	Speech Therapist	5	
	Orthopedic Technologist	6	
	<b>SUB TOTAL</b>	<b>41</b>	
Central Sterilization and supplies	Assistant Nursing Officer	15	Average of 4,000 items per day 2 shifts per day
	Medical Attendant	6	
	<b>SUB TOTAL</b>	<b>21</b>	
Anesthesia	Anesthesiologist	8	6 operating rooms 3 shifts per day Average of 80 patients per day
	Anesthetist Nurse	25	
	<b>SUB TOTAL</b>	<b>33</b>	
Theatre	Nursing Officer	30	5 New operating theatres under construction 2 Nurses per theatres per shift
	Assistant Nursing Officer	70	
	Medical Attendant	20	
	<b>SUB TOTAL</b>	<b>120</b>	
Surgical Wards	Nursing Officer	50	330 admitted patients. 245 Beds 3 shifts per day. 6 -High dependent rooms of 48 patients (HDU) Ward rounds Wound dressing Medication Teaching Assist in investigations Admission and discharges
	Assistant Nursing Officer	80	
	Medical Attendant	80	
	<b>SUB TOTAL</b>	<b>210</b>	
Ophthalmology wards	Nursing Officer	10	3 shifts per day 45 beds Average of 45 in patients/day 104 hours of teaching annually 1 -High dependent rooms of 8 patients (HDU) Wound dressing Teaching Medication 3-Shift per day Ward rounds Assist in investigations Admission and discharges
	Assistant Nursing Officer	15	
	Medical Attendant	10	
	<b>SUB TOTAL</b>	<b>35</b>	
Internal Medicine Wards	Nursing Officer	29	3 shifts per day 175 beds Average of 180 in patients/day
	Assistant Nursing Officer	58	
	Medical Attendant	49	
	<b>SUB TOTAL</b>	<b>136</b>	

Function	Cadre	Proposed Number	Criteria
			104 hours of teaching annually 4 -High dependent rooms of 32 patients (HDU) Teaching Medication 3-Shift per day Ward rounds Assist in investigations Admission and discharges
Obstetrics and Gynecology wards	Nursing Officer	15	3 shifts per day Average 100 patients daily 90 Beds Ward rounds Medications Assist investigations Admissions and discharge 2 -High dependent rooms of 16 patients (HDU)
	Assistant Nursing Officer	30	
	Medical Attendant	20	
	<b>SUB TOTAL</b>	<b>65</b>	
Labor Ward	Nursing Officer	20	3 shifts per day Average 40 waiting beds 25 Average of 25 Deliveries per day Ward rounds Conduct deliveries Close follow up mother in labor 10 delivery cubes Assist investigations Ward rounds Teaching
	Assistant Nursing Officer	43	
	Medical Attendant	13	
	<b>SUB TOTAL</b>	<b>76</b>	
Intensive Care	Specialist (Anesthesiologist)	6	30 -Beds 3 shifts per day Average 30 Patients daily 104 hrs teaching annually Assist in investigations Admission and discharge Close critical care
	Anesthetist	6	
	Physician	6	
	Nursing Officer	30	
	Assistant Nursing Officer	60	
	Medical Attendant	27	
	<b>SUB TOTAL</b>	<b>135</b>	
Renal Dialysis Unit	Specialist Doctors	3	10 -Patients per day
	Medical Doctors	4	
	Nursing Officer	4	
	Assistant Nursing Officer	6	
	Medical Attendant	2	
	<b>SUB TOTAL</b>	<b>19</b>	
Pediatric wards	Nursing Officer	15	3 shifts per day 114 beds 120 patients per day 1 -High dependent rooms of 8 patients (HDU) Ward rounds Teaching Assist in investigations Admissions and discharge
	Assistant Nursing Officer	38	
	Medical Attendant	22	
	<b>SUB TOTAL</b>	<b>75</b>	
Mental Health wards	Nursing Officer	12	3 shifts per day 45 beds
	Assistant Nursing Officer	24	

Function	Cadre	Proposed Number	Criteria
	Medical Attendant	18	50 patients/day
	<b>SUB TOTAL</b>	<b>54</b>	Ward rounds Teaching Assist in investigations Admissions and discharge
Oncology ward	Nursing Officer	25	3 shifts per day
	Assistant Nursing Officer	50	150 beds
	Medical Attendant	20	30 patients per day
	<b>SUB TOTAL</b>	<b>95</b>	Ward rounds Teaching Assist in investigations Admissions and discharge
Emergency Medicine	Emergency Medicine Specialist	5	200 Average emergency cases
	Surgeon	5	per day
	Nursing Officer	20	20 resuscitation beds
	Assistant Nursing Officer	40	20 Average of Casualties
	Medical Attendant	15	8 Consultation rooms
	Medical Doctors	30	6 Sections
	<b>SUB TOTAL</b>	<b>120</b>	3 Shift per day
CTC	CTC-Coordinator	1	Average of 200 patients
	Deputy CTC Coordinator	1	8- Regions outreach services
	Administrator	1	8-Supportive training
	Accountant	1	
	Pharmacist	6	
	Medical Doctor	10	
	Nursing Officer (Cansellor)	10	
	Assistant Nursing Officer (Cansellor)	15	
	Medical Attendant	4	
	Data Entry Clerk	4	
	<b>SUB TOTAL</b>	<b>53</b>	
Community Health Consultancy, Research Services	Epidemiologists	3	3 -Clinical research
	Researcher	6	Data analysis
	Statistician	3	Establishment of research institute
	Data Entry Clerk	5	
	<b>SUB TOTAL</b>	<b>17</b>	Continue Training
Outpatients services for health insurance clients (NHIF & other)	Physician	2	20-Consultation rooms
	Paediatrician	2	Observation room with 10 beds.
	Gynaecologist	2	
	Medical Officer	10	One story building to be completed by December, 2013
	Surgeon	2	Expected to attend 200 patients per day
	Nursing Officer	5	
	Assistant Nursing Officer	15	
	Medical Attendant	3	2-Shifts per day
<b>SUB TOTAL</b>	<b>41</b>		
Engineering Services	Biomedical Engineer	6	8-region technical support
	Biomedical Technician	12	24 wards support
	Civil Engineer	2	Quarterly PPM activities
	Mechanical Engineer	1	9 building blocks
	Electrical Technician	2	56 staff quarters
	Technician	4	
	Artisan	10	Support to allied school

Function	Cadre	Proposed Number	Criteria
	Electronic Technician	2	3 shifts per day 6 region technical support 24 wards support 25 Motor Vehicles Technical support to 5 Allied schools Servicing hospital equipment and plants
	Estate Officer	2	
	<b>SUB TOTAL</b>	<b>41</b>	
<b>GRAND TOTAL</b>		<b>2,574</b>	

### Summary of the Required Human Resource for Health for Bugando Hospital

Department/Function	Cadre	Proposed number
Directors	Director General	1
	Director of Training and Allied Health Science Schools	1
	Director of Planning and Finance	1
	Director of Administration and Human Resources	1
	Director of Clinical Services	1
	Director of Nursing Services	1
	Director of Community Health, Research and Consultancy	1
Medical Specialist		3
Emergency Medicine Specialist		5
Medical Officer		144
Surgeons	Cardiothoracic Surgeon	4
	Dental Surgeon	4
	General Surgeons	27
	Neurosurgeon	4
	Orthopaedic Surgeon	8
	Paediatric Surgeon	11
	Plastic Surgeon	2
	Surgeon (Medical maxillofacial)	1
	Surgical Oncologist	3
	Urologist surgeon	6
Cardiologist		4
Anaesthetist	Anaesthesiologist	14
Gastroenterologist		4
Gynaecologist	Gynaecologist	4
	Gynaecological Endocrinologist	2
	Gynaecological Oncologist	6
	Gynaecological Urologist	2

Department/Function	Cadre	Proposed number
	Maternal Foetal Specialist	2
	Obstetrician/ Gynaecologists	15
Nuclear Medicine Physician	Nuclear Medicine Physician	3
	Nuclear Physicist	2
	Telemedicine Oncologist	1
	Radio Pharmacist	2
	Nuclear Pharmacist	2
	Nuclear Medicine Technologist	4
	Infectious Disease Specialist	2
Dental Technologist	2	
Dermatologist	4	
Medical Maxillofacial Technician	2	
Neonatologist	4	
Endocrinologist	4	
Nephrologists	4	
Neurologists	4	
Medical Oncologist	8	
Ophthalmic/optician	Ophthalmic Optician	4
	Ophthalmologist (Super Specialists)	10
	Ophthalmologist	6
	Optometrist	6
Paediatric	Paediatric Nephrologists	2
	Paediatric Heteologist	2
	Neonatologist	4
	Paediatric Oncologist	6
	Paediatrician	17
Pathology Personnel	Pathologist	6
	Haematologist	3
	Parasitologist	3
	Laboratory Scientist	10
	Laboratory Technologist	12
	Laboratory Technologist (Histology)	3
	Laboratory Technologist (Microbiology)	3
	Laboratory Technologist (Parasitology)	3
	Laboratory Technologist (Serology)	2
	Assistant Nursing Officer	675
	Nursing Officer	320
	Medical Attendant	389
Nutritionist	9	
Pharmacy Personnel	Pharmacist	50
	Pharmaceutical Technologist	17
Prosector	5	
Psychologist	Child Psychologist	3

Department/Function	Cadre	Proposed number
	Clinical Psychologist	3
Radiologist & Radiographers	Radiation Oncologist	4
	Radiographer	20
	Radiologist	6
Physician		31
Psychiatrist		4
Clinical Psychologist		3
Child Psychologist		3
EEG-Technologist		2
Specialist	Specialist (Anaesthesiologist)	6
	Specialist (Physiotherapist)	4
Mould Room Technologist		2
Biomedical Engineers/Technicians	Biomedical Engineer	6
	Biomedical Technician	12
	Civil Engineer	2
	Mechanical Engineer	1
	Electrical Technician	2
	Technician	4
	Artisan	10
	Electronic Technician	2
	Estate Officer	2
Therapists	Physiotherapist	20
	Speech Therapist	5
	Specialist Physiotherapist	4
	Orthopaedic Technologist	6
	Occupational therapist	9
Health Secretary		2
Technician (Dosimetrist)		2
Environmental Health officer		1
Medical Record Technician		24
Assistant Medical Record Officer		6
Mortuary Attendant		18
Non - Medical Personnel	Assistant Accountant	20
	Accountant	16
	Accounts Assistant	50
	Artisan - civil	3
	Artisan - Mechanical	2
	Assistant Internal Auditor	5
	Assistant Procurement and Supplies Officer	10
	Computer Operator	24
	Electrical Artisan	4
	Electrical Technician	2
	Electronic Technician	2

Department/Function	Cadre	Proposed number
	Internal Auditor	10
	Legal Officer	3
	Planning Officer	4
	Public Relations Officer	5
	Administrative Officer	3
	Social Welfare Officer	10
	CTC-Coordinator	1
	Deputy CTC-Coordinator	1
	Chaplain	3
	Data Entry Clerk	9
	Epidemiologist	3
	Statistician	6
	Researcher	6
	Procurement and Supplies Officer	15
	ICT Officer	10
	Systems Administrator	5
	Technician - Civil	2
	Technician - Mechanical	2
	Human Resources Officer	10
	Transport Officer	2
	Office Assistant	20
	Catering Officer	8
	Receptionist	6
	Warden	3
	Telephone Operators	12
	Cook	20
	Security Officer	5
	Security Guards	40
	CCTV Operator	10
	Kitchen Attendant	20
	Clinical Laundry (Dhobi)	25
	Drivers	25
	Office Secretary	25
	Registry Clerk	10
<b>Total Human Resource for Health Required for Bugando Referral Hospital</b>		<b>2,574</b>

## 6.4 Mbeya Referral Hospital

### Introduction

Mbeya Referral Hospital is a hospital located in Mbeya City Council the Southern highlands zone, It serves a population of 6.7 m. The hospital has maximum of 500 beds.

The hospital complex is divided into two areas, which are far apart, at distance of 4.5 kilometres. The main Campus of the hospital is in one area while the other area consists mainly of Obstetrical and Gynaecological services (Maternity) – META.

**Table 8: Staffing Level for Mbeya Referral Hospital**

Function	Cadre	Proposed Number	Criteria
Administration	Director General	1	Over 600 staff both Professional and support staff
	Director of Administration	1	
	Director Surgical services	1	
	Director of Medical services	1	
	Director of OBS & GYN	1	
	Director of nursing Services	1	
	Personal Secretary	7	
	Health secretary	3	
	Health economist	1	
	Human resource officer	2	
	Record Management Assistant	8	
	Office attendants	10	
	Telephone operator	8	
	Librarian	2	
Librarian Assistant	6		
Finance	Accountant	3	2 collection points: at the main hospital wing and at META wing 3 shifts per day
	Assistant Accountant	6	
	Accounts Assistant.	12	
Procurement	Procurement & Supplies Officer	2	5 Supplies sections 2 stores
	Supplies Assistant	3	
	Medical attendants	7	
Social welfare	Welfare officer	4	11 Wards at the Main Hospital wing 5 Wards at META wing 1 rehabilitation village Average of 80-100 patients for exemptions
Medical Records	Medical recorder	24	Average of 600 client per day 3 shifts per day

Function	Cadre	Proposed Number	Criteria
	Medical Attendant	10	3 medical record sections Serves more than 10 offices
Information Technology	ICT Officer	3	2 hospital wings 60 data collection points 70 computers
	ICT Technician	3	
	Data Entry Operator	6	
<b>OUT PATIENT</b>			
Emergency and Casualty	Specialist (Emergency Medicine)	3	4 sections 11 consultation rooms Average of 200 clients per day 1 Casualty ward 3 shifts per day Average of 10-15 emergency cases per day
	Medical Officer	15	
	Nursing Officer	10	
	Assistant Nursing Officer	23	
	Medical Attendant	12	
<b>PHYSIOTHERAPY</b>			
Physiotherapy	Physiotherapist	9	6 service sections Average of 10 patients per day
	Occupational therapist	6	
	Medical Attendant	3	
<b>INTERNAL MEDICINE</b>			
Internal Medicine	Physician	16	3 wards 82 beds NO/ ANO to patient ratio 1:8 8 consultation rooms 2 special clinics per day 3 shifts per day
	Medical Officer	16	
	Nursing Officer	10	
	Assistant Nursing Officer	21	
	Medical Attendant	30	
Medical Investigation unit	Assistant Nursing Officer	2	
	Medical Attendant	1	
CTC Services	Nursing Officer	2	Average of 170 clients per day 5 service stations
	Assistant Nursing Officer	10	
	Medical Attendant	4	
Renal Dialysis	Nursing Officer	2	4 renal dialysis machines
	Assistant Nursing Officer	3	
	Medical Attendant	3	
Administrative Services	Physician	1*part of the above Physicians	
	Nursing Officer	1	
<b>PEDIATRICS</b>			
Pediatrics	Paediatrician (Neonatologist and cardiologist)	2	2 hospital wings 3 shifts per day

Function	Cadre	Proposed Number	Criteria
	Paediatrician	3	79 beds and 40 cots NO/ANO to patient ratio 1:8 15 cubic's for babies NO/ANO to patient ratio 1:3
	Medical Officer	8	
	Nursing Officer	20	
	Assistant Nursing Officer	50	
	Medical Attendant	53	
Administrative Services	Pediatrician	1*From among Pediatricians	ICU services for children with 3 beds NO/ANO to patient ratio 1:1
	Nursing Officer	1	
<b>SURGERY</b>			
Surgery	Surgeon (Cardio-thoracic , Neurosurgery, Urology, Paediatric, Surgery, plastic Surgery)	6	Average of 10 operations per day 92 beds in 3 wards Nurse to patient ratio 1:8 14 cubic 5 consultation rooms 4 operating rooms Daily clinics
	Surgeon	8	
	Nursing Officer	22	
	Assistant Nursing Officer	10	
	Medical Attendant	35	
Central Sterilization and Supplies	Nursing Officer	4	3 working zones 250 trays per day
	Assistant Nursing Officer	15	
	Medical Attendant	12	
Minor Theatre	Nursing Officer	3	2 operating room 3 shifts per day
	Assistant Nursing Officer	8	
	Medical Attendant	8	
ICU	Nursing Officer	6	6 beds 3 shifts per day Nurse to patient ratio 1:1
	Assistant Nursing Officer	12	
	Medical Attendant	11	
Major Theatre	Nursing Officer	7	4 operating room 3 shifts per day Average of 10 operations per day
	Assistant Nursing Officer	15	
	Medical Attendant	12	
Administration	Surgeon	1*from among the Surgeons	
	Nursing Officer	1	
<b>DENTAL UNIT</b>			
Dental	Dental Specialist (Maxillofacial Surgeon, Paediatrics dentist and Restorative dentist)	3	3 Consultant Rooms 1 Laboratory 1 x-ray machine
	Dental Surgeon	3	
	Nursing Officer	1	
	Medical Attendant	3	

Function	Cadre	Proposed Number	Criteria
	Dental Technician	2	
<b>GYNAECOLOGY AND OBSTETRICS META WING</b>			
Gynecology and Obstetrics	Super Specialist (Oncology, Reproductive Biology, Perinatal medicine, Tubal Microsurgery)	4	Average of 300 clients per day Average of 120 patients per day Nurse to patient ratio 1:8 6 consultation rooms Average of 10 Operation per day including emergency deliveries 3 shifts per day
	Gynaecologist	3	
	Medical Officer	12	
	Nursing Officer	23	
	Assistant Nursing Officer	74	
	Medical Attendant	89	
RCH	Nursing Officer	4	RCH Clinics daily 6 service stations
	Assistant Nursing Officer	8	
	Medical Attendant	4	
ICU - Meta	Nursing Officer	3	4 patients/day 3 shifts Nurse to patient ratio 1:1
	Assistant Nursing Officer	9	
	Medical Attendant	10	
Central Sterilization & Supplies Meta	Nursing Officer	3	3 working zones Average of 135 trays at Meta per day
	Assistant Nursing Officer	10	
	Medical Attendant	10	
Gynecology and Obstetrics Minor Theatre	Nursing Officer	1	
	Assistant Nursing Officer	4	
	Medical Attendant	2	
Gynecology and Obstetrics Major Theatre - Meta?	Nursing Officer	5	
	Assistant Nursing Officer	15	
	Medical Attendant	11	
<b>EYE SERVICES</b>			
Ophthalmology	Super Specialist (Retina Surgeon)	10	Average of 30-40 patients per day Ward 4 with 32 beds Nurse to patient ratio 1:8 Average of 20 eye operations per week 2 consultation room 3 shifts per day
	Ophthalmologist	6	
	Assistant Medical Officer (Ophthalmologist)	4	
	Optometrist	6	
	Nursing Officer	8	
	Assistant Nursing Officer	15	
	Medical Attendant	15	
Administration	Ophthalmologist	1*from among the Ophthalmologist	
	Optometrist	1	
<b>MENTAL HEALTH SERVICES</b>			

Function	Cadre	Proposed Number	Criteria
Psychiatry	Psychiatrist	2	Average of 25-30 clients per day NO/ANO to patient ratio 1:4 3 shifts
	Psychologist	1	
	Medical Officer	1	
	Nursing Officer	6	
	Assistant Nursing Officer	20	
	Medical Attendant	1	
	Social Welfare Officer	1	
	Occupational Therapist	1	
<b>LABORATORY INVESTIGATION</b>			
Laboratory	Laboratory Scientist	6	6 units
	Laboratory Technologist	11	Two hospital wings
	Assistant Laboratory Technologist	16	3 shifts per day
	Medical Attendant	8	Number of specimen per day: 100 - hematology 100 - immunology 50 - microbiology 80 - parasitology 100 - clinical chemistry 50 - histopathology
	Pathologist	1	
Pharmacy	Pharmacist	6	3 shifts per day
	Pharmaceutical Technologist	24	Average of 1200 prescription/day.
<b>Total</b>		<b>1,173</b>	

## Summary Mbeya Referral Hospital

Group	Cadre	Proposed Number
Directors	Director General	1
	Director of Administration	1
	Director of Medical services	1
	Director Surgical services	1
	Director of OBS & GYN	1
	Director of nursing Services	1
		<b>6</b>
Specialist	Gynaecologist	3
	Health economist	1
	Specialist (Emergency Medicine)	3
	Super Specialist (Oncology)	1
	Super Specialist (Perinatal Medicine)	1
	Super Specialist (Reproductive Biology)	1
	Super Specialist (Tubal Microsurgery)	1
	Super Specialist (Retina Surgeon)	1
	Surgeon	8
	Surgeon (Cardio-thoracic)	1
	Surgeon (Neurosurgery)	1
	Surgeon (Paediatric Surgery)	2
	Surgeon (Plastic Surgery)	1
	Surgeon (Urology)	1
	Dental Specialist (Maxillofacial Surgeon)	1
	Dental Specialist (Paediatric Dentist)	1
	Dental Specialist (Restorative Dentist)	1
	Dental Surgeon	3
	<b>32</b>	
Clinicians	Physician	16
	Medical Officer	52
	Assistant Medical Officer	4
	Dental Technician	2
		<b>74</b>
Paediatrician	Paediatrician	3
	Paediatrician (Neonatologist and cardiologist)	2
		<b>5</b>
Nurses	Assistant Nursing Officer	335
	Nursing Officer	140
		<b>484</b>
Pharmacy	Pharmacist	6
	Pharmaceutical Technologist	24

Group	Cadre	Proposed Number
		30
Laboratory Personal	Assistant Laboratory Technologist	16
	Laboratory Scientist	6
	Laboratory Technologist	11
		<b>33</b>
Health secretary		3
Occupational therapist		7
Ophthalmologist		16
Optometrist		6
Pathologist		1
Physiotherapist		9
Psychiatrist		2
Psychologist		1
Medical recorder		24
Non - Medical Professional	Accountant	3
	Accounts Assistant.	12
	Assistant Accountant	6
	ICT Officer	3
	ICT Technician	3
	Data Entry Operator	6
	Welfare officer	4
	Human resource officer	2
	Librarian	2
	Librarian Assistant	6
	Medical Attendants	354
		<b>411</b>
Support Staff	Telephone operator	8
	Office attendants	10
	Personal Secretary	7
	Record Management Assistant	8
	Social Welfare Officer	1
	Supplies Assistant	3
	Procurement & Supplies Officer	2
		<b>39</b>
<b>Total Human Resources for Health Required for Mbeya Referral Hospital</b>		<b>1,173</b>

## 6.5 Muhimbili Orthopaedic Institute (MOI)

### Introduction

The Muhimbili Orthopaedic Institute (MOI) is an autonomous institution established under Act No. 7 of 1996 with the main objective of providing primary, secondary and tertiary care for preventive and curative health services in the field of Orthopaedics, Traumatology and Neurosurgery, as well as being a role model for efficient hospital management gearing at self-sustainability.

MOI also provides teaching services for undergraduate, postgraduate and allied Health Science students for the Muhimbili University College of Health Sciences (MUCHS). A postgraduate course in Trauma or Orthopaedics is well established since 2001. MOI's long-term goal is to become a designated academic institution and training centre for the East, Central and Southern African region under the auspices of the East African Community (EAC) and the Southern African Development Cooperation (SADC). The institute has bed capacity of 150 (Private 30 and Public 120) and the average number of patients is 166 per day.

**Table 9: Staffing level for Muhimbili Orthopedic Institute**

Function	Cadre	Proposed number	Criteria
<b>DIRECTORATE OF HUMAN RESOURCES DEVELOPMENT AND ADMINISTRATION</b>			
Administration	Executive Director	1	
	Medical Director	1	
	Human Resource Director	1	
	Human Resource Officers	5	
	Health Secretary	1	
	Administrative Officer	1	
Transport	Driver	6	46 motor vehicles 2 shifts per day
Public Relations	Public Relations Officer	1	
Social Welfare	Social welfare Officer	3	
	Assistant Social Welfare Officer	2	
Medical Records	Statistician	2	9 serving points
	Medical recorder	18	
Reception	Receptionist/Telephone Operator	2	8 hours Telephone and reception services delivery a day
Personnel Registry	Records Management Assistant	5	Average of 754 open and confidential personal files, 185 subject files
	Personal Secretary	10	6 offices and 4 directors
	Office Attendant	11	12 offices
Finance and Supplies	Director	1	
	Chief Accountant	1	

Function	Cadre	Proposed number	Criteria
	Accountant	6	
	Accounts Assistant	16	
	Supplies Officer	4	
	Assistant Supplies Officer	2	
Information Technology	ICT manager	1	Head of IT unit and as such is Responsible for all activities of the unit
	ICT Officer	6	120 Computers and laptop 8 hours of service delivery.
Audit	Chief Internal Auditor	1	
	Assistant Internal Auditor	2	
Procurement and supplies	Supplies Officer	4	
	Ass. Supplies Officer	1	
Orthopaedic; Traumatology; and Neurosurgery	Specialist Medical Doctor	41	Unit head and Specialists for 12 for GS
	Consultant	16	12 for OT
	Medical Officer	54	2 for Paediatric OT 5 for Anaesthesia 5 for NS Consultants in 3 for NS 9 for OT 3 for Paediatric OT 1 for Anaesthesia Average of 100 -150 patients General clinic Average of 250-270 patients private clinic Average of EMD 45 patients per day Average of 25-30 Elective operations/day Average of 5-10 emergency operations/day Average of ICU 8 patients/day Average of Private ward (30) per day General ward with average of 180 patients per day
Radiology	Radiologist	2	Average of 150 exposures per day
	Radiographer	8	
	Radiographer Technician	2	New X - Ray machine and ultra sound machine which

Function	Cadre	Proposed number	Criteria
	Medical Attendant	2	will require additional number of staff 2 shifts per day
Laboratory Investigations	Laboratory Scientist	3	2 shifts per day Average of 150 investigations per day Expansion (MOI Phase III 2 blocks) Average of 350 specimen per day
	Laboratory Technologist	6	
	Assistant Laboratory Technologist	2	
	Medical attendant	2	
Physiotherapist	Physiotherapist	25	Average of 140 patients/day 2 shifts per day Mbwani Mpiji rehabilitation centre accommodates an average of 50 patients Average of 20 patient spinal cord injuries and diseases and traumatic brain injury/daily
	Occupational Therapist	2	
	Medical Attendant	1	
Orthopaedic Workshop	Orthopaedic Technologist	5	Makes an average of 60 appliances per month
	Orthotist / prosthetist	6	
	Shoe maker	8	
Pharmacy	Pharmacist	2	8 hours service per day Average of 300 prescription per day
	Pharmaceutical Technologist	4	
	Medical Attendant	2	
Nursing	Nursing Director	1	Supervise an average of 207 nurses 134 medical attendants. 6 wards, 2 Theatre 1 Emergency unit.
	Nursing Officer (Matron)	1	
	Nursing Officer (Wing manager)	1	Heads 4 general wards (2 male wards, 1 female ward and 1 paediatric ward) Supervise 63 nurses and 90 medical attendants.
	Nutritionist	1	Average of 10 patient on special diet Average of 43 paediatric patient
	Environmental Health Officer	1	2 building Blocks Approximately 2 Tons waste
	Nursing Officer( IPC)	3	2 tons of waste disposed/day 10 safety boxes of injection disposed/day
General Clinics	Nursing Officer	2	Average of 100-150 general

Function	Cadre	Proposed number	Criteria
	Assistant Nursing Officer	10	patients per day 1 shift per day
	Medical Attendants	5	10 consultation rooms
Private clinics	Nursing Officer	1	Average of 250-270 general patients per day 1 shift per day 4 consultation rooms
	Assistant Nursing Officer	15	
	Medical Attendants	1	
Dressing room	Assistant Nursing Officer	3	Average of 35-40 patients/day 1 shift per day
	Medical Attendants	1	2 dressing rooms
Paediatric ward A	Nursing Officer	7	NO/ANO: Patient Ratio 1:6 2 shifts per day 43 bed capacity Average of 50-55 patients per day
	Assistant Nursing Officer	11	
	Medical Attendants	3	
Ward 2 - Female ward	Nursing Officer	3	NO/ANO: Patient Ratio 1:6 2 working shifts 33 bed capacity Average of 35-45 patients per day
	Assistant Nursing Officer	12	
	Medical Attendants	5	
Ward 17 -Male ward	Nursing Officer	6	NO/ANO: Patient Ratio 1:6 2 shifts per day 33 bed capacity 55-70 patients per day
	Assistant Nursing Officer	17	
	Medical Attendants	21	
Ward 18-Male ward	Nursing Officer	6	NO/ANO : Patient Ratio 1:6 2 working shifts 33 bed capacity Average of 55-70 patients per day
	Assistant Nursing Officer	17	
	Medical Attendants	21	
Private Wing I	Nursing Officer	2	NO/ANO : Patient Ratio 1:6 2 shifts per day 15 bed capacity Average of 15 patients per day Expansion of MOI Phase III
	Assistant Nursing Officer	3	
	Medical Attendants	10	
Private wing II	Nursing Officer	2	NO/ANO : Patient Ratio 1:6 2 shifts per day 15 bed capacity Average of 15 patients per day Expansion of MOI Phase III
	Assistant Nursing Officer	3	
	Medical Attendants	10	
ICU	Nursing Officer	15	NO/ANO : Patient Ratio 1:1 2 shifts per day 10 bed capacity Average of 15 patients per day Expansion of MOI Phase III
	Assistant Nursing Officer (critical care)	30	
	Medical Attendants	15	

Function	Cadre	Proposed number	Criteria
			to increase bed capacity to 20
EMD	Nursing Officer (critical care)	20	NO/ ANO : Patient Ratio 1:1 2 shifts per day Average of 20-30 patients per day
	Assistant Nursing Officer (emergency care)	20	
	Assistant Nursing Officer	20	
	Medical Attendants	20	
Theatre	Nursing Officer	30	NO/ ANO : Patient Ratio 1:1 2 shifts per day Average of 20-30 patients per day
	Assistant Nursing Officer (Theatre)	30	
	Medical Attendants	30	
Central Sterilization and Supplies	Nursing Officer	2	2 shifts per day Average of Theatre packs 2200 kits; 1600 gowns; and 4000 towels per day Average of Ward packs 1600 dressing trays; 90 suture trays; 160 small drums and 200 big drums per day
	Assistant Nursing Officer	3	
	Medical Attendants	5	
<b>Total</b>		<b>776</b>	

### Summary Muhimbili Orthopaedic Institute

Group	Cadre	Proposed
Directors	Director	1
	Executive Director	1
	Medical Director	1
	Nursing Director	1
		<b>4</b>
Specialist	Consultant	16
	Specialist Medical Doctor	41
		<b>57</b>
Medical Officers		54
	Assistant Nursing Officer	114
	Assistant Nursing Officer (Theatre)	30
	Assistant Nursing Officer (critical care)	30
	Assistant Nursing Officer (emergency care)	20
	Nursing Officer	65
	Nursing Officer (Critical Care)	25
	Nursing Officer (theatre)	30
	Nursing Officer(IPC)	3

Group	Cadre	Proposed
	Nursing Officer (Matron)	1
		<b>318</b>
Laboratory Personal	Assistant Laboratory Technologist	2
	Laboratory Scientist	3
	Laboratory Technologist	6
		<b>11</b>
Physiotherapist		<b>25</b>
Radiologist & Radiographer	Radiographer	8
	Radiographer Technician	2
	Radiologist	2
		<b>12</b>
Pharmacy Personals	Pharmaceutical Technologist	4
	Pharmacist	2
		<b>6</b>
Nutritionist		1
Occupational Therapist		2
Orthopaedic Technologist		5
Orthotist /prosthetist		6
Environmental Health Officer		1
Health Secretary		1
Medical recorder		18
Non - Medical Professionals	Accountant	6
	Accounts Assistant	16
	Administrative Officer	1
	Ass. Supplies Officer	1
	Assistant Internal Auditor	2
	Assistant Social Welfare Officer	2
	Assistant Supplies Officer	2
	Chief Accountant	1
	Chief Internal Auditor	1
	Human Resource Officer	5
	Human Resource Director	1
	ICT manager	1
	Public Relations Officer	1
	Shoe maker	8
	Social welfare Officer	3
	Statistician	2
	Supplies Officer	8
	ICT Officer	6
	<b>101</b>	
Support Staff	Medical Attendants	154
	Personal Secretary	10
	Receptionist/Telephone Operator	2
	Records Management Assistant	5
	Office Attendant	11
	Driver	6
		<b>188</b>
<b>Total Human Resources Required for Muhimbili Orthopaedic Institute</b>		<b>776</b>

## 6.6 Ocean Road Cancer Institute

### Introduction

The Ocean Road Cancer Institute (ORCI) was established by Act of Parliament No. 2 of 1996. The Institute is the only specialized centre for cancer treatment in the country and is located along Ocean Road in Dar es Salaam. The Institute operates under the Ministry of Health and has its own Board of Trustee. Financing of the operations is through government subvention. Cancer treatment is offered free to the patient and therefore the Institute does not have the ability to generate extra funds through cost sharing to bridge financing gaps.

The Centre's bed capacity is 160. Ownership of the current premises is vested in the Institute. It has a common seal and own management answerable to the Board of Trustee. The services offered by the Institute are therapeutic, diagnostic, preventive, research and teaching.

### The Purpose of the Institute

- To control and manage the Institute and to assume responsibility for the control and management of such hospital or health facilities as may be vested in the Institute by order published in the official gazette.
- To provide medical care to inpatients and outpatients affected with cancer and other diseases in accordance with medical ethics
- To stimulate and promote programmes of education on health and particularly on cancer
- To conduct training programmes
- To provide consultant services
- To perform research activities with or without association with persons or institutions inside or outside the Republic
- To do any act for the purpose of achieving any of the above stated aims and functions of the Institute.

The proposed staffing level is based on the approved organogram of the Institute, bed capacity as well as the overall objective of the Institute which is quality health care provision to the clients.

**Table 10: Staffing level for Ocean Road Cancer Institute**

Function	Cadre	Proposed number	Criteria
<b>Administration Department</b>			
Management	Executive Director	1	Chief executive of the institute responsible for the day-to-day running of activities.
	Human Resources Management Officer	2	Over 387 Employee
	Office management secretary	3	Average of 10-15 files daily Average of 10 circular and internal memo circulated daily to different departments
	Personal Secretary	5	5 directorate and 8 hours office service delivery per week
	Office attendant	5	Six directorate 5 Public toilets

Function	Cadre	Proposed number	Criteria
General Maintenance	Technician	1	6 storeys multifunction buildings Daily check-up for defaults in the buildings
	Artisan	2	
Transport	Drivers	10	10 vehicles and 3 shifts per day for ambulance service
Catering Services	Catering officer	1	An average of 350 patients daily 2 shifts per day
	Cook	9	
	Nutritionist	1	
	Kitchen attendant	4	
Social welfare services	Social Welfare officer	4	1 home Visits once per week Average of 30 clients attended per day 45 hours of social education to the clients
Library services	Librarian Assistant	1	50 clients daily 8 hours service delivery
	Librarian Attendant	1	
Internal Audit	Chief Internal auditor	1	Monthly, quarterly and annual reports
	Internal Auditor	1	
Procurement And supplies	Procurement & Supplies officer	1	Average of 20 items per day
	Procurement & supplies assistant	1	
Finance and Accounting	Chief Accountant	1	Annual budget Average of 20 transactions per day
	Accountant	3	
	Accounts Assistant	3	
Information And Technology	ICT Officer	1	60 computers 8hrs of services delivery per day 60 computers
	ICT technician	1	
Planning	Planning officer	2	Annual budget
Customer care Unit	Public Relation Officer	1	Average of 25 clients and 8 hours for service delivery per day
Registry	Medical recorder	9	Average of 150 clients per day 3 shift per day
Casualty and Emergency Services	Medical Officer	3	Average of 10-15 patients per Day 3 shifts per day
	Nursing Officer	3	
	Assistant Nursing Officer	5	
	Medical Attendant	3	
General Oncology Clinic	Radiation oncologist	4	Average of 30 new cases each day; Average of 20 follow up cases

Function	Cadre	Proposed number	Criteria
			per day
	Medical oncologist	4	Average of 50 patients (new and follow up cases)
	Paediatric oncologist	4	Average of 10 new paediatric cases daily, 30 follow up paediatric cases each day
	Gynaecologist	2	Average of 30 clients daily (New and follow up cases)
	Surgical oncologist	3	Average of 10 surgical procedures each day 60 teaching hours annually
	Medical Officer	20	Average of 50 clients daily,
	Nursing Officer	5	Average of 100 patients per day 5 consultation rooms 2 shifts per day
	Assistant Nursing Officer	10	
	Medical Attendant	6	
Nuclear Medicine	Nuclear medicine physician	2	Average of 30 patients a day 2 shifts per day
	Nuclear medicine technologist	4	Average of 10 procedures are performed daily Each procedure takes an average of 30 minutes
	Nuclear Medicine Physicist	1	Average of 20 files are reviewed daily
	Nuclear Pharmacist	1	Dispensing radio nuclei material to about 10 patients daily
	Assistant Nursing Officer	1	45 minutes of health education on specific procedures 15 minutes post treatment observation per patients
	Medical Attendant	1	3 rooms
Care and Treatment Clinic (CTC)	Physician	1	Average of 10 patients per day 8 hrs of services delivery
	Medical Officer	2	Average of 35 patients per day 8 hrs service delivery
	Nursing Officer	2	45 min health education 3hrs adherence session daily Average of 6 clients per day
	Assistant Nursing Officer	2	Average of 4 new cases per day pre-treatment counselling Average of 50 clients are measured vital status and BMI during treatment visit
	Medical Recorder	1	8 hrs of services delivery per day

Function	Cadre	Proposed number	Criteria
			Enrol 3-5 new cases within working days Updates an average of 50 records per day
Telemedicine Medical Consultancy	Oncologist	1*from OPD	Average of 5-10 patients per day 8hrs of service delivery per day
Continuous Medical Education	Oncologist	1* from OPD	90 minutes presentation, twice a week
	ICT Officer	1* from IT Dept	10 computers and complex IT facility services delivery per day
Palliative care	Physician	3	30 clients per day Consultant 15 patients per day Average of 45 in patients per day 1 hour of teaching per week
	Nursing Officer	4	Average of 5 home visits per day
	Assistant Nursing Officer	4	Average of 12 patients attended daily Daily outpatient clinic
	Physiotherapist	1	Daily outpatient clinic
	Social welfare officer	1	Average of 5 clients attended daily Average of 2 focus group discussions per week (30-45 minutes) 1 home visit a week
Ward 1 Medical Oncology	Medical Officer	2*from OPD	40 Average number of patients per day 3 shifts per day
	Nursing Officer	5	
	Assistant Nursing Officer	10	
	Medical Attendant	6	
Radiation Oncology ward 2 Paediatric Oncology Ward 3	Medical Officer	2*from OPD	Average of 40 inpatients per day 3 shifts per day
	Nursing Officer	5	
	Assistant Nursing Officer	10	
	Medical Attendant	6	
General Oncology Ward 4(male)	Medical Officer	2*from OPD	Average of 40 inpatients per day 3 shifts per day
	Nursing Officer	5	
	Assistant Nursing Officer	10	
	Medical Attendant	6	
Ward 5 – 1 <sup>st</sup> floor Surgical	Medical Officer	3*from OPD	Daily average number of patients – 70

Function	Cadre	Proposed number	Criteria
Oncology ward	Nursing Officer	8	Bed capacity – 60 3 shifts per day
	Assistant Nursing Officer	16	
	Medical Attendant	6	
Ward 5 – 1 <sup>st</sup> floor Surgical Oncology ward	Medical Officer	3*from OPD	Daily average number of patients – 70 Bed capacity – 60 3 shifts per day
	Nursing Officer	8	
	Assistant Nursing Officer	16	
	Medical Attendant	6	
Ward 5 – 2 <sup>nd</sup> floor	Medical Officer	3*From OPD	Daily average number of patients – 70 Bed capacity is 60 3 shifts per day
	Nursing Officer	8	
	Assistant Nursing Officer	16	
	Medical Attendant	6	
Theatre	Nursing Officer	6	Average of 3 major operations per day Average of 7 minor operations per day 3 shifts per day
	Assistant Nursing Officer	10	
	Medical Attendant	8	
	Anaesthetist	3	
Central Sterilization supplies	Nursing Officer	2	Prepares an average of 65 dressing trays per day 3 shift per day
	Assistant Nursing Officer	3	
	Medical Attendant	6	
ICU	Anaesthetist	1	Average of 4 patients per day NO/ANO to patient ratio 1:1
	Medical Officer	2	
	Nursing Officer (Critical care nurse)	4	
	Assistant Nursing Officer	8	
	Medical Attendant	4	
<b>MACY</b>			
Stores Management	Pharmacist	1	Dispenses an average of 300 prescriptions per day Compounds an average of 45 liters of infusion per day 3 shifts per day
	Pharmacist Technician	1	
Dispensing	Assistant Pharmacist Technician	1	
Infusion	Pharmacist Technician	1	
Compounding	Pharmacist Technologist	1	
	Pharmacist Assistant	1	
<b>RATORY</b>			
Pathology and Cytology	Pathologist	2	Examines an average of 30 samples per day 60 teaching hours per year 4 rooms
	Laboratory Technologist	3	
	Medical Attendant	1	

Function	Cadre	Proposed number	Criteria
Clinical Chemistry	Laboratory Scientist	1	Examines an average of 30 samples per day 60 teaching hours per year for lab Scientist and technologist
	Laboratory Technologist	4	
	Medical Attendant	1	
Haematology and Blood Transfusion	Haematologist	1	Average of 70 specimen per day 3 shifts per day 2 big rooms Cleans 70 specimen bottles
	Laboratory Scientist	1	
	Laboratory Technologist	1	
	Laboratory Technologist	2	
	Medical Attendant	1	
Parasitology and Entomology	Laboratory technologist	3	Average of 20 specimen per day 3 shifts per day
	Laboratory Scientist	1	
Microbiology and Immunology	Microbiologist (MO)	1	Average of 20 patients per day 2 shifts per day
	Laboratory scientist	1	
	Laboratory Technologist	1	
Mortuary	Mortuary Attendant	4	Average of 4 dead bodies 3 shifts per day 1 post-mortem cases per week
Environmental Health	Health Officer	1	
Radiotherapy	Radiotherapist	20	Average of 200 patients per day 3 Shifts per day 5 Radiotherapy machines
	Radiotherapy clerk	1	
	Technologist (Mould room)	2	
	Dosimetrist	2	
	Medical Attendant	1	
Radiation Quality Assurance	Physicist	3	Average of 50 patients files per day 8 hours of service delivery
Engineering	Bio-medical engineer	1	15 machines 2 shifts per day
X- ray services	Radiologist	1	Average of 100 patients per day 2 shifts per day
	Technician (Dark room)	1	
	Radiographer	8	
	Medical Attendant	1	
Engineering	Bio-medical engineer	1	15 machines 12 hours service delivery
<b>CANCER PREVENTION AND RESEARCH</b>			
Health Promotion	Nursing Officer (PHN)	3	1 media session per week, 2-community outreach per week. 8 Hours service delivery
	Medical Officer (MPH)	1	
Research	Specialist (Public Health )	1	Average of 50 research