Standards for Oncology Services

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Health Regulation Sector

Dubai Health Authority

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INTRODUCTION

The Health Regulation Sector (HRS) plays a key role in regulating the health sector. HRS is mandated by the Dubai Health Authority (DHA) Law No. (6) of the year (2018) with its amendments pertaining to DHA, to undertake several functions including but not limited to:

- Developing regulation, policy, standards, guidelines to improve quality and patient safety and promote the growth and development of the health sector;
- Licensure and inspection of health facilities as well as healthcare professionals and ensuring compliance to best practice;
- Managing patient complaints and assuring patient and physician rights are upheld;
- Governing the use of narcotics, controlled and semi-controlled medications;
- Strengthening health tourism and assuring ongoing growth; and
- Assuring management of health informatics, e-health and promoting innovation.

The Standards for Oncology Services aims to fulfil the following overarching priorities of Dubai Health Sector Strategy 2026:

- Pioneering Human-centered health system to promote trust, safety, quality and care for patients and their families.
- Make Dubai a lighthouse for healthcare governance, integration and regulation.
- Pioneering prevention efforts against non-communicable diseases.
- Foster healthcare education, research and innovation.

EXECUTIVE SUMMARY

Dubai Health Authority (DHA) is pleased to present the DHA Standards for Oncology Services, which aims to improve the quality of oncology services in healthcare facilities.

This regulation places an emphasis on services' requirements with a focus on quality of services and safety of patients and healthcare professionals based on the international standards of best practices in this domain, while taking into consideration the local and federal laws. Therefore, this document provides a base for the Health Regulation Sector (HRS) to assess the oncology services provided in the Emirate of Dubai and to ensure a safe and competent delivery of services.

It will also assist oncology service providers in developing their quality management systems and in assessing their own competence to ensure compliance with DHA regulatory requirements and the United Arab Emirates (UAE) federal laws.

DEFINITIONS

Antineoplastic: Meaning Anti-cancer therapy and cytotoxic (cell-killing) therapy**.** Includes immunotherapy, hormonal therapy, targeted therapy and chemotherapy.

Cancer: Defined as a term for diseases in which abnormal cells divide without control and can invade nearby tissues.

CT Simulation: shall be defined as a CT procedure in which the specific pathology is localized within the patient, who is placed in a precise and reproducible position, for use in treatment planning for radiation therapies. CT Simulation utilizes conventional a CT scanner outfitted with specific simulation hardware and software.

External Radiation Therapy: shall be defined as the use of high-energy penetrating wave or particle beams used to damage or destroy cancerous cells. External Radiation Therapy may also be used as a form of treatment for some non-cancerous diseases, and is frequently delivered on a recurring outpatient basis. High-energy beams do not leave the patient 'radioactive' and there are no concerns about exposure of the patient to other persons post-treatment. See Linear Accelerator.

Healthcare professional: shall be defined as healthcare personal working in healthcare facilities and required to be licensed as per the applicable laws in United Arab Emirates.

Hospice: shall be defined as a facility or program designed to provide a caring environment for meeting the physical and emotional needs of the terminally ill.

Intensity Modulated Radiation Therapy (IMRT): shall be defined as an advanced external beam radiation therapy, which utilizes computer images to match radiation to the size and shape of a tumor. Using multiple smaller beams from different angles and of varying intensities, IMRT varies the shape of the radiation delivered to the treatment area, minimizing damage to surrounding healthy tissue. See Stereotactic Radiosurgery.

Internal Radiation Therapy: shall be defined as the use of low-level radioactive implants or 'seeds' to deliver radiation to local tissue structures. Frequently implanted in tumors, the radioactive decay damages or destroys the immediately surrounding tissue. Implants are specifically chosen to match the prescribed radiation dose necessary to damage the tumor while protecting the surrounding healthy tissues. Radioactive implants are placed surgically. Depending upon the implant's intensity, patients may be 'radioactive' for a period of time post-implantation and may need to remain in hospital, segregated from others until the radioactive decay reduces the strength of the implant.

Licensure: shall be defined as issuing an official permission to operate a health facility to an individual, government, corporation, partnership, Limited Liability Company (LLC), or other form of business operation that is legally responsible for the facility's operation.

Linear Accelerator (Linac): shall be defined as a device, which produces and delivers high-energy beams, which, in the hospital setting, is used to damage or destroy targeted tissues or structures,

frequently cancerous tumors, within the patient's body. See Stereotactic Radiosurgery.

Multidisciplinary Team: (MDT) in oncology is defined as the cooperation between different specialized professionals involved in cancer care with the overarching goal of improving treatment efficiency and patient care.

Oncology: shall be defined as a branch of medicine that specializes in the diagnosis and treatment of cancer. It includes medical oncology (the use of chemotherapy, hormone therapy, and other drugs to treat cancer), radiation oncology (the use of radiation therapy to treat cancer), and surgical oncology (the use of surgery and other procedures to treat cancer).

Palliative shall mean an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relieving of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

Palliative Care: refers to patient- and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering.

Patient: shall be defined as any individual who receives medical attention, care or treatment by any healthcare professional or admitted in a health facility.

Picture Archiving and Communication System (PACS): shall be defined as the digital capture, transfer and storage of diagnostic images. A PACS system consists of workstations for interpretation, image/data producing modalities, a web server for distribution, printers for file

records, image servers for information transfer and holding, and an archive of off-line information. A computer network is needed to support each of these devices.

Precision Oncology: Aims to deliver the right cancer treatment to the right patient at the right dose and the right time.

Radiation Therapy: shall be defined as use of high-energy radiation to shrink tumors and kill cancer cells. X-rays, gamma rays, and charged particles are types of radiation used for cancer treatment. The radiation may be delivered by a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy, also called brachytherapy).

Stereotactic Radiosurgery: shall be defined as the process by which radiation beams are projected to the tumor or target area from multiple points of origin. This allows relatively high radiation doses to the target area while exposing the surrounding tissues to significantly lower levels of radiation energy. Stereotactic Radiosurgery equipment is available in both frame-based systems for treatment of head and neck, and frameless systems, which can treat any anatomic area.

Supervised area: shall be defined as any area not already designated as a controlled area but where occupational exposure conditions need to be kept under review even although specific protection measures and safety provisions are not normally needed.

Surgical oncology: shall be defined as a specialized area of oncology that engages surgeons in the cure and management of cancer.

Treatment Planning: shall be defined as following precise identification of the position, size and shape of a tumor or target area, typically through MR, PET/CT, SPECT/CT or CT based simulation, the optimal means of radiation therapy is planned in which the precise radiation doses are delivered to target areas while minimizing the radiation exposure to adjacent and surrounding tissues. This plan is typically mapped out three dimensionally and computer plotted to guide radiation therapy / radiosurgery.

ABBREVIATIONS

ACLS	:	Advanced Cardiac Life Support
BLS	:	Basic Life Support
DHA	:	Dubai Health Authority
DM	:	Dubai Municipality
ECG	:	Electrocardiography
EMT	:	Emergency Medical Technician
FANR	:	Federal Authority Nuclear Regulation
HRS	:	Health Regulation Sector
ICU	:	Intensive Care Unit
IPPV	:	Intermittent positive pressure ventilation
MDT	:	Multidisciplinary Team
PALS	:	Pediatric Advanced Life Support
PPE	:	Personal Protection Equipment
QAP	:	Quality Assurance Program
RN	:	Registered Nurse
UAE	:	United Arab Emirates
UPS	:	Uninterrupted Power Supply

1. BACKGROUND

Oncology services provide diagnoses, treatment and follow-up for cancer in adults using chemotherapy, hormonal therapy, biological therapy, targeted therapy, and immunotherapy. Those services include but are not limited to: Breast cancer screening, Bowel cancer screening, Upper or lower GI endoscopy and bronchoscopy, Comprehensive tumor board, genomic testing, Surgery, Radiotherapy and second opinion.

2. SCOPE

2.1. All DHA licensed facilities that provide oncology services.

3. PURPOSE

3.1. To assure provision of the highest levels of safety and quality for Oncology services in Dubai Health Authority (DHA) licensed health facilities.

4. APPLICABILITY

4.1. DHA licensed healthcare professionals and health facilities providing Oncology services.

5. **STANDARD ONE:** REGISTRATION AND LICENSURE PROCEDURES

5.1. All health facilities providing Oncology services shall adhere to the United Arab Emirates (UAE) Laws and Dubai regulations.

5.2. Health facilities aiming to provide Oncology services shall comply with the DHA licensure and administrative procedures available on the DHA website https://www.dha.gov.ae.

5.3. Licensed health facilities opting to add Oncology services shall inform Health Regulation Sector (HRS) and submit an application to HRS to obtain permission to provide the required service.

5.4. Oncology services shall only be provided in one of the following facilities:

5.4.1. Hospital / Unit attached to a hospital

5.4.2. Day Surgical Center

5.4.3. Cancer Treatment Center

5.4.4. Breast Unit

5.4.5. Outpatient Clinic

6. **STANDARD TWO:** HEALTH FACILITY REQUIREMENTS

6.1. The health facility should meet the health facility requirement as per the DHA Health Facility Guidelines (HFG).

6.2. A comprehensive Oncology service shall consist of the following:

(Note: If the applicant provides a single oncology service, then only the relevant requirements should be considered).

6.2.1. Reception and Waiting Areas

6.2.2. Consultation and Examination Rooms

6.2.3. Diagnostic Imaging Services

6.2.4. Radiotherapy Services

6.2.5. Mould room.

6.2.6. Treatment planning room.

6.2.7. Chemotherapy Services

6.2.8. Surgical care

6.2.9. Intensive Care Unit (ICU)

6.2.10. Palliative care

6.2.11. Acute hematology service

6.2.12. Bone marrow transplant

6.2.13. Pediatric oncology hematology service

6.2.14. Nuclear medicine

6.2.15. Interventional radiology

6.2.16. Oncology pharmacy with aseptic chemotherapy preparation area.

6.2.17. Histopathology

6.2.18. Fertility preservation service

6.2.19. Inpatient rooms

6.2.20. Outpatient holding area

6.2.21. Clinical Laboratory and Blood services

6.2.22. Support areas for Oncology care

6.2.23. Staff areas including staff station, staff change areas, etc.

6.2.24. Meeting room where the multidisciplinary team gets together to discuss cases.

6.3. The health facility should install and operate equipment required for provision of the proposed services in accordance to the manufacturer's specifications.

6.4. The health facility shall ensure easy access to the health facility and treatment areas for all patient groups.

6.5. The health facility design shall provide assurance of patients and staff safety.

6.6. The health facility shall have appropriate equipment and trained healthcare professionals to manage critical and emergency cases.

6.7. The health facility should develop the following policies and procedure; but not limited to:

6.7.1. Patient acceptance criteria

6.7.2. Patient assessment and admission

6.7.3. Patient education and Informed consent

6.7.4. Patient health record

6.7.5. Infection control measures and hazardous waste management

6.7.6. Incident reporting

6.7.7. Patient privacy

6.7.8. Medication management

6.7.9. Emergency action plan

6.7.10. Patient discharge/transfer.

6.8. The health facility shall provide documented evidence of the following:

6.8.1. Appropriate storage and preparation of chemotherapy, targeted therapy and immunotherapy medicine.

6.8.2. Transfer of critical/complicated cases when required

6.8.3. Patient discharge

6.8.4. Clinical laboratory services

6.8.5. Equipment maintenance services

6.8.6. Multidisciplinary decision making and management of patients

6.8.7. Laundry services

6.8.8. Medical waste management as per Dubai Municipality (DM) requirements

6.8.9. Housekeeping services.

6.9. The health facility shall maintain charter of patients' rights and responsibilities posted at the entrance of the premise in two languages (Arabic and English).

6.10. The health facility shall have in place a written plan for monitoring equipment for electrical and mechanical safety, with monthly visual inspections for apparent defects.

6.11. The health facility shall ensure it has in place adequate lighting and utilities, including temperature controls, water taps, medical gases, sinks and drains, lighting, electrical outlets and communications.

7. **STANDARD THREE:** HEALTHCARE PROFESSIONALS REQUIREMENTS

7.1. Medical Oncologist

7.1.1. A Medical oncologist is a highly trained specialist who is responsible for the diagnosis and treatment of patients with cancer. They must be assisted by a competent team to provide effective treatment.

7.2. Radiation Oncologist

7.3. Radiation Therapist

7.4. Surgical Oncologist

7.4.1. Including specialization in colorectal, upper GI, hepatobiliary, breast oncoplastic, urology, GYN oncology, thoracic surgery, head and neck surgery and neurosurgery.

7.5. Oncology Nurses

7.6. Chemotherapy Nurses

7.7. Oncology Pharmacist

7.8. Oncology Social Worker

7.9. Radiation Technician

7.10. Radiation Physicist

7.11. Pathologist

7.12. Hematologist

7.13. Lab Technician

7.14. Nutritionist

7.15. Physical Therapist

7.16. Palliative Care Specialist

7.17. Healthcare Professionals with sub-specialty or specialty oncology training from a DHA approved institution.

7.18. Nuclear Medicine Specialists

7.19. Chemotherapy unit includes (but not limited to):

7.19.1. Internal Medicine Consultant /Specialist present at the facility at all times.

7.19.2. Medical Oncologist

7.19.3. Clinical Pharmacist

7.19.4. Specialty Nurse- Oncology

7.19.5. Palliative care physician

7.20. Multidisciplinary team:

7.20.1. All Cancer Care Centers must have a multidisciplinary team with a minimum membership including diagnostic radiologists, pathologists, surgical oncologist, radiation oncologists and medical oncologists to achieve high levels of quality care to manage the disease.

7.20.2. The multi-disciplinary team may include physicians ranging from primary care providers to specialists in all oncology disciplines. In addition, care requires input from many other clinical and allied-health professionals including nursing, social work, genetics, nutrition, rehabilitation, and others.

7.20.3. Multidisciplinary team must meet on a regular basis to discuss the management of patients who are diagnosed with cancer.

7.20.4. The multi-disciplinary team is responsible for goal setting, planning, initiating, implementing, evaluating, and improving all cancer-related activities in the program.

7.21. Diagnostic Imaging Unit:

7.21.1. Diagnostic Radiologist

7.21.2. Radiologist

7.21.3. Radiographer

7.21.4. Magnetic Resonance Imaging (MRI) Technologist

7.21.5. Sonographer

7.21.6. Interventional radiology service

7.22. For radiation therapy unit; the clinical use of ionizing radiation is a complex process involving highly trained personnel in a variety of interrelated activities that include:

7.22.1. Radiation Oncologist

a. There should be one (1) radiation oncologist for each 35-45 patients under treatment at the facility.

7.22.2. Physicist:

a. There should be one physicist present for each center

b. A therapist with specialized training in dosimetry, a “Dosimetrist”, may render additional support.

7.22.3. Radiotherapy Technologist

a. Two technologists are required for the operation of each treatment machine.

b. An additional technologist will also be present with special training in simulation techniques.

7.22.4. Mould Room Technician

7.22.5. Nuclear Medicine Technologist

7.22.6. Specialty Nurse- Oncology

a. A nurse with special competence and skills required for the management of oncology patients.

7.22.7. Support personnel

a. Personnel will be present to attend to the needs of the patients and the facility in the general categories of administration, compiling of documentation, scheduling, etc.

b. Additional staff may be required for transcription, mold fabrication and other tasks as identified by the facility.

7.23. Surgical Oncology Unit includes (but not limited to):

7.23.1. Anaesthesiologist

7.23.2. Surgical Oncologist

7.23.3. Specialty Nurse – Oncology

7.23.4. Anaesthesia Technologist

7.23.5. Anaesthesia Technician

7.24. Pediatric Oncology Unit

7.24.1. Pediatric Oncologist

7.24.2. Pediatric Hematologist

7.24.3. Pediatric Surgeon/ Surgical oncologist (as per 7.20.12)

7.24.4. Pediatric Transfusion Medicine

7.24.5. Registered Nurse

7.24.6. Pediatric Nurse

7.24.7. The medical staff at such a facility is composed of a multidisciplinary team of a primary care pediatrician, pediatric medical subspecialists and pediatric surgical specialist like hematologists/ oncologists, surgeons, urologists,' neurologists, neurosurgeons, orthopedic surgeons, radiation oncologists, pathologists, child life specialists, and diagnostic radiologists. These physicians and nurse practitioners, pediatric nurses, social workers, pharmacists, nutritionists, and other allied health professionals shall care for the child or adolescent with cancer.

7.24.8. Pediatric hematologist/oncologist is the coordinator for the diagnosis and treatment of most children and adolescents with cancer. He/ she must be assisted by a competent team to provide effective treatment that can comprise of:

a. Pediatric oncology nurses who are certified in chemotherapy, knowledgeable about pediatric protocols, and experienced in the

b. management of complications of therapy.

c. Rehabilitation Pediatric physical and mental rehabilitation services

d. including pediatric physiatrists.

e. Social Workers and access to support groups.

f. Pediatric Nutrition Expert.

7.24.9. Radiologists with specific expertise in the diagnostic imaging of infants, children, and adolescents.

7.24.10. Radiation oncologist trained and experienced in the treatment of infants, children and adolescents.

7.24.11. Pediatric Surgeons/ Urologist; Surgical specialists with pediatric expertise (i.e., training and certification, if available) in neurosurgery, orthopedics, ophthalmology, otolaryngology, etc.

7.24.12. Pediatric Subspecialists available to participate actively in all areas of the care of the child with cancer, including anaesthesiology, intensive care, infectious diseases, cardiology, neurology, endocrinology and metabolism, genetics, gastroenterology, child and adolescent psychiatry, nephrology, and pulmonology.

7.24.13. A pathologist experienced in pediatric oncology is an essential member of the multidisciplinary team at the pediatric oncology center.

7.25. Clinical Laboratory:

7.25.1. Anatomic and clinical pathologist

7.25.2. Cytopathologist

7.25.3. Hematopathology

7.25.4. Pediatric Pathologist

7.26. Support staff that the facility may have are:

7.26.1. Nursing staff

7.26.2. Biomedical Engineer

7.26.3. Quality Assurance officer

7.26.4. IT support staff

7.26.5. Pharmacist

7.26.6. Therapist (Physiotherapist, Occupational Therapist, Speech Therapist)

7.26.7. Social Workers

7.26.8. Clinical Psychologist

7.26.9. Dieticians

7.26.10. Wig fitters

7.26.11. Emergency Medical Technician Advances (Paramedic)

7.27. Physicians:

7.27.1. A suitably qualified DHA licensed Consultant Oncologist / Physician shall be nominated as medical director of the oncology center who shall be responsible for overall management of the facility.

7.27.2. A DHA licensed consultant paediatric oncologist must be associated with the facility in case Paediatric oncology services are provided (children from birth to

eighteen (18) years of age, this age could be extended to twenty-one (21) years of age as per the American Cancer Society).

7.27.3. The paediatric oncologist must be present when paediatric oncology services are provided.

7.27.4. The oncologist must ensure adequate monitoring of patients during treatment, and subsequent aftercare.

7.27.5. The oncologist shall be contactable at all times to render emergency care.

7.27.6. In the event that the oncologist on duty is unable to fulfil his/ her full responsibility to the patients of the oncology center, he/ she must arrange for a similarly qualified physician to be responsible for the total care of the patients in the facility.

7.27.7. The medical director is ultimately responsible in ensuring that the monitoring and safety devices and resuscitation equipment are in proper working condition at all times.

7.27.8. The need for treatment and choice of modality shall be based on MDT recommendation, sound clinical principles, internationally recognized guidelines and thorough clinical evaluation of medical condition and co-morbid by the attending oncologist.

7.27.9. The attending oncologist may recommend to the end stage cancer patient the modality that is best suited to him/ her. This shall be based on the patient's,

other comorbid conditions, ability to comply with treatment, available family support and other social factors.

7.27.10. The patient shall be allowed to make a fully-informed choice of modality, after receiving adequate counselling from his/ her oncologist on the different modalities available and the modality that is most appropriate for the patient's need.

7.27.11. There shall be a documented Quality Assurance Program (QAP) to ensure quality patient care through objective and systematic monitoring, evaluation, identification of problems and action to improve the level and appropriateness of care. The QAP shall include:

a. Documented policies and procedures related to the safety while conducting all patient care activities.

b. Documented regular biannual reviews of the policies and procedures.

c. Documented reviews of deaths, accidents, complications and injuries arising from treatment.

7.28. Nursing Staff:

7.28.1. Nurses with specialized knowledge and skills shall provide oncology-nursing care.

7.28.2. The nurse in-charge must be a qualified DHA licensed Registered Nurse (RN), with at least two (2) years of experience in oncology.

7.28.3. The ratio of trained RNs/ patients shall be 1:3 at a given time.

7.28.4. All the nurses shall have an Oncology Nursing Society (ONS) certification and maintain Continuous Professional Development (CPD) by attending ONS programs.

7.28.5. There shall be at least one (1) nurse with a minimum of six (6) months of training or experience/ training to be physically present at the oncology center at all times to monitor the patients throughout the treatment/ procedure, to be available to deal with any emergencies that may arise and to alert the oncologist when necessary.

7.28.6. The attending RN is responsible for the general checkup of the patient including vital statistics and recording the initial assessment in the medical records.

7.28.7. All RNs shall hold current BLS and ACLS certifications.

7.29. Biomedical Engineer:

7.29.1. Employ a biomedical engineer or have contracts with the manufacturers of the equipment for regular monitoring and maintaining equipment.

7.30. Radiation Safety Officer:

7.30.1. Uses ionizing radiations for medical use may be required to have a Radiation Protection Program (RPP).

7.31. Quality Assurance officer:

7.31.1. The Quality assurance officer will monitor the quality improvement program activity and report the findings to the cancer committee at least annually and

recommend corrective action if activity falls below the annual goal or requirement.

7.32. Pharmacist

7.32.1. A DHA licensed pharmacist shall be in charge of maintaining the medicines and solutions that will be administered to patients with a minimum of one (1) year experience in Chemotherapy preparation.

7.33. Therapist (Physiotherapist, Occupational Therapist, Speech Therapist):

7.33.1. DHA licenses healthcare professionals to support the cancer treatment offered at the facility.

7.34. Clinical Psychologist:

7.34.1. At least one (1) DHA licensed clinical psychologist to help people who are having difficulty coping with cancer or cancer treatment.

7.35. Dietician:

7.35.1. At least one (1) dietician shall maintain progress notes of all patients treated in the facility.

7.36. Medical Social Worker:

7.36.1. There shall be some medical social workers associated with oncology center.

7.36.2. The medical social workers shall be involved in psychosocial evaluation, case work counselling of patients and families, group work, evaluate and facilitate rehabilitation, team care planning and collaboration, facilitating community agency referral, improve communication with treating team.

7.36.3. The social workers are required to maintain notes of the patients.

7.37. Infection Control Nurse:

7.37.1. To perform regular audits, conducts surveillance of cultures and insures best practice for patient access.

8. **STANDARD FOUR:** DIAGNOSTIC IMAGING REQUIREMENTS:

8.1. The diagnostic imaging services may include the following:

8.1.1. Conventional Radiography (X ray unit)

8.1.2. Ultrasound

8.1.3. MRI

8.1.4. Digital Mammography

8.1.5. Sonography

8.1.6. CT: PET CT imaging and SPECT/CT

8.1.7. For detailed information, please refer to Diagnostic Imaging Services Regulation on the DHA website www.dha.gov.ae.

8.1.8. Diagnostic imaging services must comply with the FANR laws and regulations regarding the use of ionizing radiation and radioactive materials. For further information regarding FANR, law and regulations please visit FANR website www.fanr.gov.ae.

9. **STANDARD FIVE:** RADIATION REQUIREMENTS

9.1. The facility layout shall be planned in accordance with the local radiation safety regulations and internationally accepted radiation safety standards and in consultation with the radiation oncologist, physicist and equipment manufacturer.

9.2. The room design, construction and shielding shall be as per FANR and the manufacturers.

9.3. The radiation unit may have an inpatient facility for frail patients, patients travelling long distances and the occasional patient who has severe reactions to any of the treatments administered in the facility (a bed for every 10 patients).

9.4. The radiation therapy unit shall:

9.4.1. Be located on the ground floor or lower floors of the oncology center to accommodate the weight of the equipment and ease of installation and replacement.

9.4.2. Ensure properly designed rigid support structures located above the finished ceiling for ceiling mounted equipment.

9.4.3. Provide equipment and infrastructure for treatment of patients using radioactive rays.

9.5. The radiotherapy unit should include the following functional areas, but not limited to:

9.5.1. CT Simulation room with an adjacent control area and changing room

9.5.2. Treatment planning room for physicist/ dosimetrists

9.5.3. Film processing and storage area.

9.5.4. Physics laboratory/ Dosimetry equipment area (if thermoluminescent dosimetry (TLD) and film dosimetry are available, an area shall be designed for these activities)

9.5.5. Film processing room, storage areas

9.5.6. Radiotherapy Room/ Bunkers to house the equipment to deliver treatment with an adjacent computer control area and changing rooms

9.5.7. Holding area/ Recovery area

9.5.8. Hypothermia room

9.5.9. Mould room (optional)

9.5.10. Exam Room

9.6. If intra-operative therapy is proposed, the radiation oncology unit shall be only hospital based and located close to the operating unit or with a direct link.

9.7. Areas requiring specific protection measures (controlled areas) include:

9.7.1. Irradiation rooms for external beam

9.7.2. Therapy and remote afterloading brachytherapy

9.7.3. Brachytherapy rooms

9.7.4. Simulator room

9.7.5. Radioactive source storage and handling areas

9.8. These areas shall maintain define controlled areas by physical boundaries such as walls or other physical barriers marked or identified with 'radiation area' signs.

9.9. The area of the control panel shall be considered as a controlled area, to prevent accidental exposure of patients by restriction of access to non-related persons, and distraction to the operator of a radiotherapy machine.

9.10. Supervised areas may involve areas surrounding brachytherapy patients' rooms or around radioactive source storage and handling areas.

9.11. Certain staff members need to be monitored with individual dosimeters. Individual external doses can be assessed by using individual monitoring devices such as thermoluminescent dosimeters or film badges, which are usually worn on the front of the upper torso. These shall include:

9.11.1. Radiation oncologists

9.11.2. Radiotherapy physicists

9.11.3. Radiation protection officer

9.11.4. Radiotherapy technologists

9.11.5. Source handlers

9.11.6. Maintenance staff

9.11.7. Nursing or other staff who must spend time with patients under treatment with brachytherapy.

9.12. Indications for radiation must undergo quality control and auditing.

9.13. Healthcare professional requirements for a Radiation Therapy Unit shall be according to the table in (**Appendix 1**).

10. **STANDARD SIX:** CHEMOTHERAPY REQUIREMNETS

10.1. The chemotherapy unit can be:

10.1.1. A part of a hospital

10.1.2. A satellite unit- on a hospital campus; but not in the hospital.

10.1.3. Integrated Cancer Care – a part of an oncology center that provides diagnostic services, radiation therapy and/ or surgical facility.

10.1.4. Freestanding unit - In case a chemotherapy unit is a freestanding facility it shall:

a. Maintain a contract with the closest hospital with inpatient services to manage emergencies or complications.

b. Provide an in-house ambulance service.

10.2. The chemotherapy unit shall be designed to provide designated, discreet and easy access for patients who may arrive by public transport or vehicles, with families and children or those who arrive on a wheel chair, ambulance stretcher or patient trolley.

10.3. Chemotherapy can be provided in an outpatient service except in the case of acute leukemia patients where the patients shall be treated in a multispecialty health facility with inpatient, outpatient & ICU services.

10.4. The chemotherapy unit can have inpatient services only with an Internal Medicine Consultant /Specialist present at the facility at all times and provide a minimum of 5- 6 inpatient beds.

10.5. The Chemotherapy Unit shall have the following functional areas:

10.5.1. Reception/ Waiting area

10.5.2. Consultation room

10.5.3. Sterile preparation room/ Buffer area

10.5.4. Anteroom/ pharmacy

10.5.5. Aseptic chemotherapy preparation area.

10.5.6. Patient treatment areas/ procedure room with treatment chairs or beds

10.5.7. Isolation room(s)

10.5.8. Clean utility/ Dirty utility

10.5.9. Medication preparation room with a 100% exhaust Class II B2 safety cabinet

10.5.10. Staff areas

10.5.11. Support areas

10.5.12. Storage areas for clinical, non-clinical and bulk items storage e.g. fluids, equipment including infusion/syringe pump storage.

10.5.13. Waste Disposal Room

10.6. Patient treatment areas shall consist of treatment bays to provide chemotherapy to patients.

10.7. Patient privacy shall be considered in the design.

10.8. Special consideration given to patients with special needs.

10.9. Nurse call and emergency call facilities shall be provided in all patient areas (e.g. bed/chair spaces, toilets etc.) and clinical areas in order for patients and staff to request for urgent assistance. The alert to staff members shall be done in a discreet manner.

10.10. Provision of duress alarm system shall be provided for the safety of staff members who may at times face threats imposed by clients / visitors. Call buttons shall be placed at all reception /staff station areas and consultation / treatment areas where a staff may have to spend time with a client in isolation or alone. The combination of fixed and mobile duress units shall be considered as part of the safety review during planning for the unit.

10.11. Inclusion of medical gases (oxygen and suction) units of one (1) per two (2) chairs shall be provided.

10.12. Hand washing facilities with liquid soap dispenser, disposable paper towels and personal protection equipment (PPE) shall be readily available for staff within the unit.

10.13. The chemotherapy unit shall maintain an easily accessible chemotherapy work flowchart for high quality and standardised care.

10.14. The chemotherapy unit shall maintain a crash cart to deal with emergencies.

10.15. Services that support and are linked with chemotherapy may include:

10.15.1. Physiotherapy (Lymph oedema management)

10.15.2. Occupational therapy

10.15.3. Dietetic / Nutrition services

10.15.4. Clinical Psychology

10.15.5. Social work services

10.15.6. Community and outreach cancer services

10.15.7. Palliative Care and hospice

10.15.8. Complementary therapies (e.g. relaxation, stress management and massage)

10.15.9. Wig and prosthesis services.

10.16. All cytotoxic drug waste shall be separated from general waste.

10.17. Cytotoxic waste shall be destroyed in an incinerator approved for the destruction of cytotoxic drugs.

10.18. Breakable contaminated needles, syringes, ampoules, broken glass, vials, intravenous sets and tubing, intravenous and intravesical catheters etc. shall be placed into designated leak-proof; puncture proof sharps containers that clearly and visibly displays the cytotoxic hazard symbol.

10.19. Non-breakable contaminated materials including disposable gowns, gloves, gauzes, masks, intravenous bags, etc. shall be placed in thick sealed plastic bags, hard plastic or cytotoxic containers that clearly and visibly display the cytotoxic hazard symbol. When full, the bags and containers shall be placed in the oncology waste container.

10.20. Clearly marked chemotherapy waste receptacles shall be kept in all areas where cytotoxic drugs are prepared or administered.

10.21. If access to an appropriately licensed incinerator is not available, the acceptable alternative shall be transportation to and burial in a licensed hazardous waste dump.

10.22. Special written protocol shall be maintained for:

10.22.1. Management of an incident in case a patient/family member is contaminated with a cytotoxic agent.

10.22.2. Management of cytotoxic spill in or outside the BSC.

10.22.3. Safe transportation of cytotoxic agents.

10.23. All chemotherapy protocols and deliveries must be audited by oncologists and oncology pharmacists. A flag system should be in place for excessive use of chemotherapy in the last 2 week before death.

11. **STANDARD SEVEN:** SURGICAL ONCOLOGY

11.1. All oncology / suspected cancer surgeries must be approved by MDT except emergency surgeries and this must be audited regularly

11.2. Surgical Oncology procedures must be done by surgeons with specialized training in oncology.

11.3. Rectal surgeries must be done by colorectal surgeons.

11.4. Sarcoma surgeries must be done by orthopedic surgeons with special training in oncology.

11.5. For detailed information on operating theatre, critical care, airborne infection isolation, emergency area and inpatient, services refer to the “Hospital Regulation” on www.dha.gov.ae .

12. **STANDARD EIGHT:** PEDIATRIC ONCOLOGY

12.1. The pediatric facility shall:

12.1.1. Be a part of a multidisciplinary hospital.

12.1.2. Have accessible and fully staffed, onsite pediatric intensive care unit (PICU).

12.1.3. Have access to an up-to-dated diagnostic imaging facilities to perform radiography, computed tomography, magnetic resonance imaging, ultrasonography, radionuclide imaging, and angiography; positron-emission tomography (PET CT) scanning and other emerging technologies are desirable.

12.1.4. Have an up-to-date radiation-therapy equipment with facilities for treating pediatric patients shall be available.

12.1.5. Have an access to hematopathology laboratory capable of performing cell-phenotype analysis using flow cytometry, immunohistochemistry, molecular diagnosis, and cytogenetic and access to blast colony assays and polymerase chain reaction-based methodology shall be available.

12.1.6. Have access to haemodialysis and/or hemofiltration and apheresis for collection and storage of hematopoietic progenitor cells.

12.1.7. Have a clinical chemistry laboratory with the capability to monitor antibiotic and antineoplastic drug levels.

12.1.8. Have an access to blood bank capable of providing a full range of products including irradiated, cytomegalovirus negative, and leuco-depleted blood components.

12.1.9. The facility shall have a pharmacy capable of accurate, well-monitored preparation and dispensing of antineoplastic agents and investigational agents.

12.1.10. Have the capability of providing sufficient isolation of patients from airborne pathogens, which can include high-efficiency particulate air (HEPA) filtration, or laminar flow and positive/negative pressure rooms.

13. **STANDARD NINE:** PATEINT CARE

13.1. All clinical trials should have all regulatory approvals and a designated Principal Investigator with experience in conducting clinical oncology trials. Patients should be fully aware and consented to unlicensed treatments.

13.2. Palliative care:

13.2.1. The availability of palliative care services is an essential component of cancer care, beginning at the time of diagnosis and being “continuously available” throughout treatment, surveillance, and when applicable.

13.2.2. Palliative care must be available in all cancer centers.

13.2.3. Palliative care services shall be available to patients either on-site or by referral.

13.2.4. An interdisciplinary team of medical and mental health professionals, social workers, and spiritual counsellors shall be available or accessible to provides palliative care services.

13.2.5. Palliative care services on-site will vary depending on the scope of the program, staff expertise, and patients treated.

13.2.6. The palliative service team consists of:

a. Physician: Hospice and palliative medicine physician is strongly encouraged.

b. Nurse: trained in hospice and palliative care is strongly encouraged.

c. Pharmacist

d. Social worker

e. Chaplain or spiritual care counselor

f. Trained volunteer

13.2.7. Palliative care services include, but are not limited to, the following:

a. Team-based care planning that involves the patient and family

b. Pain and symptoms management

c. Communication among patients, families, and healthcare team

d. Continuity of care across a range of clinical settings and services

e. Attention to spiritual comfort

f. Psychosocial support for patients and families

g. Bereavement support for families of patients who die and team members who provided care to the person who died.

h. Hospice care: Hospice care is one aspect of palliative care and is a service delivery system that provides palliative care for patients who have a limited life expectancy.

i. Hospice is presented as an option to patients and families when the prognosis is limited and death will not be surprising.

13.3. Psychological support.

13.4. Psychosocial Services:

13.4.1. Ensure patient access to psychosocial services either on-site or by referral.

13.4.2. These services address physical, psychological, social, spiritual, and financial support needs that result from a cancer diagnosis and help ensure the best possible outcome.

13.4.3. A policy or procedure is in place to ensure patient access to psychosocial services.

13.5. Rehabilitation Services:

13.5.1. Ensures access to rehabilitation services and identifies the rehabilitative services that are provided either on-site or by referral.

13.5.2. Rehabilitation services help patients cope with activities of daily living affected by the cancer experience and enable them to resume normal activities.

13.5.3. A policy or procedure is followed to access rehabilitation services.

13.6. Nutrition Services

13.6.1. Nutrition services are essential components of comprehensive cancer care and patient rehabilitation. These services provide safe and effective nutrition care across the cancer continuum (prevention, treatment, and survivorship) and are essential to promoting quality of life.

13.6.2. An adequate spectrum of services shall be available (screening and referral for nutrition-related problems, comprehensive nutrition assessment, nutrition counseling, and education) either onsite or by referral, with a procedure in place to ensure patient awareness of and access to services.

13.6.3. A policy or procedure in place to access nutrition services.

13.7. Critical Care Services:

13.7.1. Every freestanding oncology center must have a contract/ agreement with a hospital with an Intensive Care Unit (ICU), which must be accessible (less than 10 minutes response time) to receive patients in case of emergency.

13.7.2. There must be a competent and DHA licensed RN with suitable training and experience in critical care on duty to provide the critical care services if required. The evidence of competency and training shall include, but not limited to the following:

a. Recognizing arrhythmias

b. Infection control principles

c. Training in using defibrillator

d. Life support.

e. Airway management.

13.7.3. Critical care equipment must be immediately available at the oncology center for immediate and safe provision of care if required.

13.8. Emergency Services

13.8.1. It is the responsibility of the healthcare facility management in addition to the oncologist in charge to ensure that there are facilities for emergency resuscitation, as well as documented protocols/procedures to deal with

cardiopulmonary collapse and urgent medical treatment as patients may develop hypotension, fits or collapse during treatment.

13.8.2. In addition, the healthcare facility management under the supervision of the oncologist in charge must:

a. Ensure that there are prior arrangements made for patients receiving treatment to be admitted in a nearby hospital in case of a freestanding facility, shall the need arise, within 10 minutes' driving time.

b. Ensure oncology group practice by having standing arrangements with other healthcare professionals to provide immediate medical care in the event that the physician in charge is not available.

c. Ensure there is an ambulance available at any given time to transfer the patient to a hospital in case of any medical emergency.

d. Ensure that the ambulance service is accessible and at close proximity.

e. In case the oncology center has its own ambulance service the ambulance services shall be ready with licensed, trained and qualified Emergency Medical Technicians (EMT) for patient transportation if required, this service can be outsourced with a written contract with an emergency services provider licensed in Dubai. Clear patient transport protocol shall be maintained.

13.8.3. The ambulance shall maintain the following, but not limited to:

a. Sets of instruments, which shall include suturing set, dressing set, foreign body removal set or minor set and cut down set.

b. Disposable supplies which shall include suction tubes (all sizes), tracheostomy tube (all sizes), intravenous cannula (different sizes), IV sets, syringes (different sizes), dressings (gauze, sofratulle, etc.), crepe bandages (all sizes), splints (Thomas splints, cervical collars, finger splints).

c. Portable vital signs monitor (ECG, Pulse-Oximetry, Temperature, NIBP, and EtCO2).

d. Portable transport ventilator with different ventilation mode (IPPV, SIMV, spontaneous, PS).

e. Suction apparatus.

13.8.4. Emergency drugs, devices, equipment and supplies must be available for immediate use in the emergency area for treating life-threatening conditions. Minimum Emergency Medication Requirements shall be available as per the DHA Emergency Medication Policy, available on this link: https://www.dha.gov.ae/uploads/112021/3f5565de-9eb7-46c9-9480-17190a531903.pdf

13.8.5. Storage areas for general medical or surgical emergency supplies, medication and equipment shall be under staff control and out of path of normal traffic.

13.8.6. A record must be kept for each patient receiving emergency services and must be integrated into the patient's health records, the record shall patient name, date, time and method of arrival, physical findings, care and treatment provided, name of treating doctor and discharging/transferring time.

13.9. Transfer Planning

13.9.1. The oncology center shall maintain policies and procedures concerning patient transfer which reflect acceptable standards of practice and compliance with applicable regulations in Dubai.

13.9.2. If patient is transferred to another health facility and in order to ensure continuity of patient care, the other facility shall be informed about the case and approval for transfer shall be documented in the patient file.

13.9.3. The duty manager present at the oncology center is responsible for the coordination of the timely transfer of appropriate information and discharge notice from the oncology center to a hospital or another health facility.

13.9.4. A transfer sheet shall be prepared for all patients being transferred requiring further treatment.

13.9.5. A referral letter shall be given to the patient or family/patient representative. Patient shall not be sent under any circumstances to another facility without prior approval.

13.9.6. Mode of transport shall be decided based on the condition of the patient, the treating physician and the ambulance team shall decide who shall accompany the patient e.g. physician present or trained nurse.

13.10. Patient Assessment:

13.10.1. An effective patient assessment process aims to be comprehensive, includes multidisciplinary teams and is based on clinical and priority needs of each individual patient. Such assessment shall result in identification and decisions regarding the patient's condition and continuation of treatment as the need arise. The oncology center shall have policies and procedures on patient assessment:

a. On admission

b. Following a change of health status

c. After a fall

d. When patient is transferred from one level of care to another.

13.10.2. The patient assessment shall include, but not limited to, medical history, physical, social and psychological assessment and identification of patients at risk.

13.10.3. Patients conveying personal health information during any assessment shall be accommodated in an area where privacy is assured.

13.10.4. Discharge preparation starts at admission and includes various persons, information and resources like:

a. The pickup person after treatment.

b. Travel distance to the patient's house.

c. Post discharge transport.

d. The carer's contact details and their awareness of possible issues and requirements following discharge.

e. Contact numbers after discharge in case of an emergency.

f. Discharge arrangements regarding home care where it is identified.

13.10.5. Healthcare professionals shall use a formal risk assessment process to assess skin integrity and risk of falls of patients.

13.10.6. A comfortable care environment shall be provided in the facility with focus on patient privacy.

13.10.7. The plan of care must be determined and delivered in partnership with the patient and when relevant, patient's family/patient representative/legal guardian, to achieve the best possible outcomes.

13.10.8. The patient has the right to refuse the plan of care but this has to be documented and signed by the patient.

13.10.9. Patient's participation may include:

a. Procedure date and admission/discharge time

b. Physician selection

c. Treatment preparation

13.10.10. Care shall be delivered by DHA-licensed and competent healthcare professionals and competent multidisciplinary teams and based on the best available evidence.

13.10.11. A comfortable treatment environment is provided in the facility with focus on patient privacy.

14. **STANDARD TEN:** PHARMACY AND MEDICATION REQUIREMENTS

14.1. Pharmacy services should ensure adequate stocking, storage and dispensing mechanisms for medications in a proper storage unit adhering to local laws, DHA Pharmacy Guidelines and DHA Emergency Medication Policy.

14.2. The facility shall have a pharmacy capable of accurate, well-monitored preparation and dispensing of antineoplastic agents and investigational agents.

14.3. Pharmacy must have an Oncology Pharmacist available /A Pharmacist with an oncology background.

15. **STANDARD ELEVEN:** PATHOLOGY REQUIREMENTS

15.1. Only an accredited oncology designated lab can diagnose cancer. All specimens suspected of malignancy must be examined and reported independently by two pathologists.

15.2. The oncology healthcare facility must have a designated pathology laboratory for cancer diagnosis.

15.3. Pathology department must be in-house or an accredited outsourced lab.

16. **STANDARD TWELVE:** MULTIDISCIPLINARY TEAM

16.1. A multidisciplinary team (MDT) recommendation is mandatory for management of all newly diagnosed cancer cases, and prior to initiating treatment.

16.2. The major challenge is that many cancer cases are being misdiagnosed or inaccurately treated leading to poor outcome. MDT must be officially recognised by DHA and must consist of consultant (Not specialist) medical oncologist, consultant Radiation oncologist, consultant general surgeon and consultant pathologist with training in oncology and preferred surgical oncologist.

16.3. All hospitals that do not have a full oncology service and do not have a DHA approved MDT must have an agreement with a DHA approved oncology MDT in order to treat cancer patients.

16.4. It is the responsibility of the Chief Medical Officer of each healthcare facility to ensure strict adherence to the protocol: No cancer surgery or cases of suspected cancer shall be scheduled in the operating room without prior recommendation and approval by the Multidisciplinary Team (MDT). This rule is mandatory in all health facilities that provide cancer treatment.

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APPENDIX

APPENDIX 1: HEALTHCARE PROFESSIONALS REQUIREMNETS FOR CLINICAL RADIATION THERAPY

HEALTHCARE PROFESSIONALS REQUIREMNETS FOR CLINICAL RADIATION THERAPY	
Consultant Radiation oncologist-in-chief	1 consultant and 1 specialist as a minimum per Radiation therapy unit
Staff radiation oncologist/ Physician	1:200/250 patients treated annually. No more than 25–30 patients under treatment by a single physician at any one time.
Radiation physicist	1:400 patients annually.
Treatment planning staff: Dosimetrists or physics assistant	1: 300 patients treated annually
RTT (Radio Therapy Technologist)	2:25 patients treated daily
RTT-Simulator	2: 500 patients simulated annually
RTT-Brachytherapy	As needed
Registered Nurses	1: 300 patients treated annually
Social worker	As needed to provide service
Dietician	As needed to provide service
Physiotherapist	As needed to provide service
Biomedical Engineer	If equipment serviced 'in-house'
Note: If advanced or special techniques are to be undertaken, staff additional to the above will be required.	