Standards for Urgent Care and Emergency Unit Services

Version 2

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Health Policies and Standards Unit

Health Regulation Sector (2022)

INTRODUCTION

Health Regulation Sector (HRS) forms an integral part of Dubai Health Authority (DHA) and is mandated by DHA Law No. (6) of 2018 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
- Managing health advertisement and marketing of healthcare products
- Governing the use of narcotics, controlled and semi-controlled medications
- Strengthening health tourism and assuring ongoing growth
- Assuring management of health informatics, e-health and promoting innovation

The Standards for Urgent Care and Emergency Unit Services aims to fulfil the following overarching DHA Strategic Priorities (2022-2026):

- 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.
- Leading global efforts to combat epidemics and infectious diseases and prepare for disasters.
- Pioneering prevention efforts against non-communicable diseases.
- Foster healthcare education, research and innovation.

- Strengthening the economic contribution of the health sector, including health tourism to support Dubai economy.

ACKNOWLEDGMENT

The Health Policy and Standards Unit (HPSD) developed this Standard in collaboration with Subject Matter Experts. HPSD would like to acknowledge and thank these health professionals for their dedication toward improving quality and safety of healthcare services in the Emirate of Dubai.

Health Regulation Sector

Dubai Health Authority

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EXECUTIVE SUMMARY

The purpose of this document is to assure the provision of the highest levels of safety and quality in urgent care and emergency unit services at all times. The standards have been developed to align with the evolving healthcare needs and international best practice. The standards include several aspects required to provide effective, efficient, safe and high-quality urgent care and emergency unit services. The standards include the registration and licensure procedure requirements as well as the licensure of health facilities and professionals. The standards of urgent care and emergency unit services provide clear insight into the differences between each health facility and the minimum requirements that should be met for the establishment of urgent care services and/or emergency unit services.

The standard focuses on the following:

- The health care professional requirements and permitted services for urgent care and emergency units.
- The health facility design requirements for urgent care and emergency services aligned with the DHA Health facility guidelines.
- The policies, procedures, protocols and clinical governance that should be in place for the provision of urgent care and emergency unit services.
- The general requirements for patient triage, assessment, stabilisation, admission, referral and management.

DEFINITIONS

AMA (Against medical Advice): When a patient decides to leave the DHC facility after an examination has been completed and a treatment plan recommended, whether it is an inpatient or an outpatient, this is identified as "leaving against medical advice." AMA also includes refusal of all or specific treatment or procedure.

Canadian Emergency Unit Triage and Acuity Scale: Five level assessment tool used when many patients present to the emergency unit simultaneously. EU triage ensures that patients are prioritized according to the severity of their presentation. CTAS acuity ranges from one that requires immediate attention to five, which are the walk in non-urgent patients who does not require emergency attention.

Emergency Unit: Health facilities that are open 24 hours, 7 days a week. Patients shall be admitted, transferred or discharged within 4 hours. An emergency unit is consultant-led (onsite emergency trained physician), with a multidisciplinary team and nursing support, and possess diagnostic, surgical and pharmacy capabilities to manage an emergency or life-threatening patient such as and not limited to the following conditions:

- Chest pain or pressure;
- Difficulty breathing;
- Stroke;
- Pneumonia;
- Sudden severe headache, paralysis or weakness;
- Head, Neck and Back Trauma;

- Severe or uncontrolled bleeding;
- Loss of vision;
- Compound fracture;
- Moderate or severe bleeding;
- Convulsions, seizures or loss of consciousness;
- Blunt or knife wounds;
- Fever in newborn less than 3 months old;
- Moderate or severe upper and/or lower respiratory tract infections;
- Poisoning;
- Severe dehydration;
- Severe abdominal pain.
- Acute delirium or mental impairment; and
- Obs or Gynae-related problems.

Emergency Facility: Refers to DHA licensed Facility that provides emergency care to patients with injury and illness. These facilities are categorised into three groups:

1. Urgent Care Centres
2. Emergency Unit

- Paediatric Emergency Services
- Maternity Emergency Services
- Rural Emergency Services

3. Free Standing Emergency Unit

Emergency Care: is patient care for a medical or surgical emergency condition.

Emergency condition in a hospital setting: is a condition manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in either one or more of the following:

- Placing the health of the individual (or, with respect to a pregnant woman, the health of the woman or her unborn child) in serious jeopardy,
- Serious impairment to bodily functions,
- Serious dysfunction of any bodily organ or part,

OR

- With respect to a pregnant woman who is having contractions:
    - With inadequate time to effect a safe transfer to another hospital before delivery, or
    - That transfer may pose a threat to the health or safety of the woman or the unborn child.

Emergency Medicine: is the specialty of providing medical care for unscheduled illness or injury of variable severity. Emergency Medicine includes coordination of patient care across multiple disciplines and final disposition for discharge or referral for admission further management.

Emergency Severity Index (ESI): ESI is a five-level emergency triage tool to rapidly identify and manage patient with acute life or limb threatening conditions. ESI is a five-level emergency unit triage program where ESI level 1 is the most urgent and ESI level five is the least urgent. ESI level depends on the patient's presentation acuity and the number of resources the patient requires to complete his or her assessment.

Freestanding Emergency Unit: A Freestanding Emergency Unit (FSEU) is an emergency unit, physically separate and distinct to its operating hospital, that is adequately staffed by emergency staff and physicians, and that provides comparable care to a wide range of patients 24 hours, 7 days a week. There are two models for freestanding emergency unit:

- **Hospital–outpatient Department (HOPD):** A type of freestanding emergency unit (FSEU) owned and operated by a hospital system. Also known as satellite emergency unit, offsite emergency unit. A HOPD will follow the same rules, regulations and licensing requirements of the hospital system that it affiliates.
- **Independent freestanding emergency Unit:** a type of Freestanding Emergency Unit (FSEU) owned, in whole or in part, by independent groups or by individuals.

Hazard Vulnerability Analysis: A hazard vulnerability analysis is a process for identifying the hospital's highest vulnerabilities to natural and man-made hazards and the direct and indirect effect these hazards may have on the hospital and community.

Maternity Emergency Services: Facilities in a hospital devoted to providing comprehensive obstetric and maternity emergency care. The maternity emergency unit should be open 24 hours, 7 days a week and is consultant-led (onsite obstetrics and gynaecology emergency trained physician), with a multidisciplinary team and nursing support, and possess diagnostic, surgical and pharmacy capabilities to manage an emergency or life-threatening maternity patient.

Medical Screening Examination: The medical screening examination aim to determine if the patient condition needs urgent attention or patient is stable and safe to seek treatment in another facility of their choice where they are covered and is to be performed by a licensed medical

practitioner or equivalent. Medical screening examination may include some testing to reach the conclusion of medical stability.

Paediatric Emergency Services: Facilities situated in a hospital devoted to providing paediatric emergency medical care for children up to the age of 18. The paediatric emergency unit should be open 24 hours, 7 days a week and is consultant-led (onsite paediatric emergency trained physician), with a multidisciplinary team and nursing support, and possess diagnostic, surgical and pharmacy capabilities to manage an emergency or life-threatening paediatric patient.

Picture archiving and communication system (PACS) is a modality of imaging technology, which helps in image transmission from the site of image acquisition to multiple physically disparate locations. This technology is convenient to access multiple modalities (radiographs, CT, MR, ultrasound and others) simultaneously at multiple locations within hospitals.

Rural Emergency Services: Also known as remote emergency units. Emergency units that provide urgent or emergent care to a community with low population density (defined as being less than 15,000 individuals) or, operate in area of greater physical distance from urban city centres (distance measured as being more than 100 kilometres).

Stable: is with respect to an emergency medical condition, to provide such medical treatment of the condition as may be necessary to assure, within reasonable medical probability that no material deterioration of the condition or delivery of an unborn child/placenta is likely to result from or occur during the transfer of the individual from a facility.

Thromboelastographic analyser: Haemostasis Analyser System to continuously monitor a patient's haemostasis during surgery, which reduces blood product usage and decreases thrombotic complications.

Transfer: is the movement (including the discharge) of an individual outside a hospital's facilities at the direction of any person employed by (or affiliated or associated, directly or indirectly, with) the hospital, but does not include such a movement of an individual who:

- Has been declared dead, or
- Leaves the facility without the permission of any such person.

Urgent Care Centres: It is a walk-in ambulatory clinic providing medical care for minor non-urgent illnesses or injuries. Urgent Care Centers provides care outside the acute emergency environment; it is easily accessible and opens 10 - 12 hours, minimum 6 days a week. Urgent care centres include basic diagnostic, surgical and pharmacy services, are capable of treating minor symptoms and illnesses such as, and not limited to:

- Muscle pain;
- Mild upper or lower respiratory tract infections;
- Headache;
- Mild pain such as headache/ear ache/abdominal pain;
- Mild Bleeding;
- Minor injuries;
- Sprains and joint conditions;
- Cuts that do not involve much blood but might need stitches;

- Breathing difficulties, such as mild to moderate asthma;
- Diagnostic services, including X-rays and laboratory tests;
- Eye irritation and redness;
- Fever or flu;
- Minor broken bones and fractures in fingers or toes;
- Moderate back problems;
- Severe sore throat or cough;
- Skin rashes and infections;
- Urinary tract infections; and
- Vomiting, diarrhea, or dehydration.

ABBREVIATIONS

ACLS	:	Advanced Cardiac Life Support.
ACT	:	Activated Clotting Time
AED	:	Automated External Defibrillator
ALSO	:	Advanced Life Support in Obstetrics
AMA	:	Against Medical Advice
ATCN	:	Advanced Trauma Care for Nurses
ATLS	:	Advanced Trauma Life Support
BLS	:	Basic Life Support
CCU	:	Cardiac Care Unit
CPR	:	Cardio Pulmonary Resuscitation
CTAS	:	Canadian Emergency Unit Triage and Acuity Scale
ECG	:	Electrocardiogram
EU	:	Emergency Unit
EMR	:	Electronic Medical Record
EMS	:	Emergency Medical Services
ESI	:	Emergency Severity Index
FSEU	:	Freestanding Emergency Unit
HLS	:	Helicopter Landing Site
ICU	:	Intensive Care Unit
IPPV	:	Intermittent Positive Pressure Ventilation

NRP	:	Neonatal Resuscitation Program
NIBP	:	Non-Invasive Blood Pressure
NICU	:	Neonatal Intensive Care Unit
PACS	:	Picture Archiving Communication Systems
PALS	:	Paediatric Advanced Life Support.
PHTLS	:	Prehospital Trauma Life Support
PIPS	:	Performance Improvement and Patient Safety
PPE	:	Personal Protective Equipment
SIMV	:	Synchronized Intermittent Mandatory Ventilation
SSU	:	Sterile Supply Unit
TEG	:	Thromboelastographic analyser
UCC	:	Urgent Care Centre

1. BACKGROUND

Emergency facility unit's form part of an essential part of the health system and can be segmented into Urgent Care Centres, and Emergency Units. Urgent care and Emergency services play a key role in ensuring patients that require emergency services are efficiently and effectively manage according to their needs by the right healthcare professional.

Patients that require urgent care generally suffer from an illness or injury that requires urgent attention. Functions of primary healthcare providers would be to guide the patient to the correct level of care and treatment and be provide clarity as to which services are provided where, along with providing pathways to access these services reliably. The function of the emergency unit is to receive, stabilise and manage patients (adults and children) who present with a large variety of urgent and non-urgent conditions whether self or otherwise referred.

The vision statement for Emergency Care strategy in Dubai was to collaboratively develop and lead on the Strategic direction with the view to be the "best in class and ensure integration for all emergency care services". These standards were developed and implemented by the Dubai Health Authority (DHA) in order to provide the highest quality of emergency and urgent care. DHA uses this opportunity to provide clear standards for the provision of urgent care and emergency unit services. Furthermore, the standards define the minimum service specifications and requirements for urgent care and emergency unit services in the Emirate of Dubai.

2. SCOPE

2.1. The management of urgent care and emergency unit services in DHA licensed health facilities.

3. PURPOSE

3.1. To assure provision of the highest levels of safety and quality in urgent care and emergency unit services in Dubai Health Authority (DHA) licensed health facilities.

4. APPLICABILITY

4.1. DHA licensed healthcare professionals and health facilities providing urgent care and emergency unit services.

5. STANDARD ONE: REGISTRATION AND LICENSURE PROCEDURES

5.1. All health facilities providing urgent and emergency services shall adhere to federal and local laws and regulations.

5.2. Health facilities aiming to provide urgent care and emergency unit 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 urgent care and/or emergency unit services shall apply to HRS to obtain permission to provide the required service.

5.4. The health facility shall develop the following policies and procedures including but not limited to:

5.4.1. Surge capacity and diversion policy

5.4.2. Disaster management.

5.4.3. Emergency action plan.

5.4.4. Incident reporting.

5.4.5. Sentinel events.

5.4.6. Infection control measures and hazardous waste management.

5.4.7. Medication management.

5.4.8. Patient acceptance criteria.

5.4.9. Patient assessment and admission.

5.4.10. Patient discharge.

5.4.11. Patient referral or transfer.

5.4.12. Registration policy.

5.4.13. Interfacility transfer

5.4.14. Quality improvement plan.

5.4.15. Management of healthcare information.

5.4.16. Patient education and Informed consent.

5.4.17. Patient health record.

5.4.18. Patient privacy.

5.4.19. Staff job description, qualification and education.

5.4.20. Triage and registration system.

5.5. The health facility shall maintain documented evidence of the following:

5.5.1. Transfer of critical or complicated cases when required.

5.5.2. Patient discharge.

5.5.3. Hazard Vulnerability Analysis.

5.5.4. Fire Safety, emergency plans, security,

5.5.5. Equipment maintenance services.

5.5.6. Laundry services.

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

5.5.8. Housekeeping services.

5.6. The health facility shall ensure the availability of the following services:

5.6.1. Social worker.

5.6.2. Finance.

5.6.3. Purchasing.

5.6.4. Facility management.

5.6.5. Human resources.

5.7. The health facility shall:

5.7.1. Maintain charter of patients' rights and responsibilities posted at the entrance of the premise in two languages (Arabic and English).

5.7.2. Have trained healthcare professionals to manage cases as per scope of service.

5.7.3. Install and operate equipment required for provision of the proposed services in accordance to the manufacturer's specifications.

5.7.4. Display appropriate signage with the type of service and working hours, clearly visible at the entrance of health facility.

5.7.5. Be equipped to provide services and manage case mix including People of Determination and mental health patients.

a. The health facility shall have crutches and wheel chairs available to patients who need them before or after treatment.

b. All staff working in urgent care services should receive training in the principles of safeguarding children, vulnerable and older adults and identification and management of child protection issues.

5.8. The health facility shall ensure it has in place adequate lighting and utilities, including the following:

5.8.1. Temperature controls.

5.8.2. Water taps, sinks and drains.

5.8.3. Medical gases.

5.8.4. Lighting.

5.8.5. Electrical outlets.

5.8.6. Communications.

5.9. All UCCs shall align with the DHA Guidelines for Heath facility design; section B, 360- Outpatients Unit for further guidance.

5.10. All Emergency units shall align with the DHA Guidelines for Heath facility design; section B, 120- Emergency Unit for further guidance.

5.11. The health facility shall have IT, Technology and Health Records services which includes and not limited to:

5.11.1. Electronic health records and patient information systems.

5.11.2. Access to electronic forms and requests for investigations, pharmacy, catering, and supplies.

5.11.3. Shall develop a plan to integrate electronic medical system with NABIDH project.

5.11.4. Picture archiving communications systems (PACS) should be in place for access to patient imaging results.

5.11.5. Wireless network requirements for ease of communication.

5.11.6. Telehealth technology and support services where applicable.

5.11.7. Availability of Computers, laptops and tablets for physicians, nurses, and administrative staff.

5.11.8. Patient call, nurse assist call, emergency call systems.

5.11.9. Telephones should be available in all offices, at all staff stations, in the clerical area and in all consultation and other clinical rooms.

5.11.10. The health facility shall comply with the DHA Guidelines for Managing Health Records and DHA standards for telehealth services.

5.12. Clinical Governance

5.12.1. The health facility should include representatives on the following committees:

a. Quality improvement committee.

b. Disaster management committee.

c. Infection control committee.

d. Code blue committee.

e. Educational committees for physicians.

f. Mortality and Morbidity committee.

5.13. As per the Executive Regulations Law No. (11) of the year 2013 concerning Health Insurance in Dubai and related administrative decision; patients must be granted immediate emergency care regardless of the facilities network of health insurance providers.

5.13.1. Receiving facility can submit a claim to the insurance provider to cover the cost of providing emergency services even if they are outside of the insurance network.

5.14. The health facility shall ensure patient safety and quality assurance through the following:

5.14.1. Triage Assessment:

a. Use the Canadian emergency unit triage and acuity scale (CTAS) or the emergency severity index (ESI) as reference. Refer to **Appendix 1**

b. Level 1 and Level 2 patients must be immediately stabilized prior to sorting out payment status

c. Nurses trained in urgent and/or emergency services should perform triaging.

d. Patients who present with severe physiological and/or psychological disturbance shall receive immediate care.

e. Reassessment of patients every 15-60 minutes depending on the triage level to ensure changes to clinical condition are identified in a timely manner.

5.14.2. Patient Assessment, Diagnosis and Stabilisation:

a. The health facility should have organizational plans in place to avoid crowding in the health facility.

b. The health facility shall undertake regular clinical audits, review and monitoring outcomes.

c. Availability of a multidisciplinary team, possessing the requisite levels of knowledge and training in accordance with their role in providing urgent or emergency care to patients of varied acuity levels.

d. The availability of a 24-hour consultant physician cover to oversee triage.

5.14.3. Patient transfer:

a. Urgent care centers shall transfer patients with an immediate risk or threat to life, limb, body function or long-term health to an emergency unit by interfacility ambulance.

b. The medical screening examination shall be performed by a DHA licensed healthcare professional aiming to determine if the patient condition needs urgent attention or patient is stable and safe to seek treatment in another facility of their choice where they are covered.

c. Emergency units may refer stable patients to secondary or tertiary care.

d. Indications for referral to another facility is based on the following criteria, but not limited to:

   i. Patient's need for specialized care not available in the receiving facility in terms of expertise and facilities.

   ii. For second opinion.

   iii. Non-availability of hospital beds.

   iv. Ineligibility for treatment in receiving facility.

e. All health facilities transfer policies must comply with the DHA Patient referral and inter-facility transfer policy.

f. Against Medical Advice (AMA) should be filled and signed by the patient or caregiver who refuse treatment or medical recommendations despite medical advice.

   i. Patients should be informed of all the medical risks associated when refusing medical treatment or medical recommendations.

   ii. Patients should not be encouraged to fill leaving or discharge AMA and should only be used as a last resource in the event of patient refusal despite medical advice.

5.14.4. Surge and Disaster Preparedness, the health facility shall have:

a. A unified incident management structure.

b. Preliminary assessment of the incident and document initial resource needs and availability.

c. Provide health-related data to DHA to facilitate any necessary shifts into and out of conventional, contingency, and crisis standards of care.

d. Maintain surveillance systems to detect and monitor outbreaks of disease after any public health emergency.

6. **STANDARD TWO:** URGENT CARE CENTER

6.1. The scope of Urgent Care Center (UCC) is:

6.1.1. To provide a walk-in ambulatory service providing medical care for minor non-urgent illnesses or injuries outside the acute emergency environment for both adults and children of any age.

6.1.2. To be able to undertake basic resuscitation; stabilisation and minor procedures along with medical services provided by General Practitioners or specialists and shall be supported by Registered Nurses.

6.2. UCC can be provided in:

6.2.1. Hospitals.

6.2.2. Day surgical centres.

6.2.3. Polyclinics.

6.2.4. Standalone urgent care centres.

6.3. The health facility providing UCC shall be open at least 10 - 12 hours a day, minimum 6 days a week, with access to comprehensive urgent care services.

6.4. Health facilities providing urgent care services shall have the following specifically designed areas:

6.4.1. Examination room(s).

6.4.2. Designated isolation room(s).

6.4.3. A separate waiting area.

6.4.4. Patient bathroom(s).

6.5. All UCC shall have the following services:

6.5.1. Ancillary services:

a. On site availability of plain x-ray facilities.

b. On site point of care testing and shall comply with the DHA standards for Point of care testing.

c. Access to advanced radiological and laboratory services.

i. In house

ii. Via an agreement contract

6.5.2. Pharmacology services:

a. UCC shall align with the requirements of medication as per DHA Emergency Medication Policy.

6.5.3. Referral and Patient Transfer services:

a. In addition to the above requirements, there shall be a Memorandum of understanding (MOUs) between the UCC and multiple hospitals to continue patient care once the patient is stabilised.

6.5.4. Additional services:

a. Social worker services.

b. Finance services.

c. Human resources.

d. Public Relation Officer.

e. Security.

f. Patient transport services

6.6. All UCC shall have the following minimum staff Requirements:

6.6.1. All healthcare professionals shall hold an active DHA full time professional license and work within their scope of practice.

6.6.2. An UCC shall be led by a DHA licensed Consultant/specialist physician or surgeon.

a. UCC may be led by a General Practitioner with previous experience in UCCs.

6.6.3. There shall be at least one consultant or specialist physician/surgeon, or GP per shift in the UCC.

6.6.4. All healthcare professionals providing urgent care services shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic life support (BLS) or cardiopulmonary resuscitation (CPR)

b. Advanced cardiac life support (ACLS).

c. At least one (1) healthcare professional with Paediatric advanced life support (PALS).

6.7. UCC shall have the minimum medical Equipment and supplies listed in **Appendix 2**

7. **STANDARD THREE:** EMERGENCY UNIT

7.1. The scope of Emergency Unit (EU) is:

7.1.1. To provide evaluation and early management of patients, both adults and children of all ages, whose condition might otherwise be compromised if not attended to immediately.

7.1.2. To manage life threatening and emergency medical, paediatric, maternal and obstetric conditions.

7.1.3. To manage surgical conditions and procedures such as and not limited to wound management and burns.

7.1.4. To provide surgical interventions such as the insertion of chest drains and needle thoracotomy.

7.2. Types of Emergency Units:

7.2.1. Hospital Based Emergency Units:

a. Emergency unit.

b. Paediatric Emergency unit.

c. Maternal Emergency unit.

d. Rural Emergency unit.

7.2.2. Free standing Emergency Units:

a. Satellite Emergency unit.

b. Independent Freestanding Emergency unit.

7.3. All Emergency services shall be open 24/7, and during public holidays, with unrestricted access to emergency medical care.

7.3.1. Patients shall be admitted, transferred or discharged within a period of four (4) hours.

7.4. All emergency units shall have the following designated facility design requirements:

7.4.1. Entrance and reception area, receiving of patients.

7.4.2. Patient waiting areas, with refreshments.

7.4.3. Security room.

7.4.4. Staff station.

7.4.5. Triage Assessment area/ vital sign room.

7.4.6. Designated isolation room(s).

7.4.7. Patient Resuscitation Bay(s)

a. Availability of a specialised resuscitation bed.

b. Enough space is available for a 360-degree access to all parts of the patient for uninterrupted procedures.

c. Easy access from the ambulance entrance.

7.4.8. Consultation/Examination room(s).

7.4.9. Observation/Short stay room(s).

7.4.10. Assessment/Treatment room(s).

7.4.11. Medication room.

7.4.12. Procedure room(s)

7.4.13. Support areas which should include:

a. Clean utility room.

b. Dirty utility room.

c. Medical Disposal room.

d. Equipment store room.

7.4.14. Staff Areas which should include:

a. Male and female changing rooms (toilets, shower and lockers).

b. Staff Room.

c. Offices and workstations.

d. Meeting rooms that may be used for education and teaching functions.

7.4.15. Ambulance Receiving Base and Helicopter landing site (HLS)

a. All Emergency services shall have an ambulance service.

b. Helicopter landing site is mandatory in rural emergency services.

c. Shall conform to Civil Aviation Authority Standards.

7.4.16. Optional areas may include:

a. Paediatric Assessment/Short Stay.

b. Mental Health Assessment Rooms.

c. Short-Stay Unit/Emergency Medical Unit for extended observation and management of patients.

7.5. All EUs shall have the following units with 24/7 access to:

7.5.1. Radiology unit.

7.5.2. Laboratory unit

7.5.3. Pharmacy unit

7.5.4. Medical records.

7.5.5. Mortuary unit

7.6. All Hospital based EUs shall have the additional following units with 24/7 access to:

7.6.1. Inpatient unit for medical and surgical wards.

7.6.2. Outpatients unit for patient follow-up and referrals.

7.6.3. Intensive care unit.

7.6.4. Operating unit

7.6.5. Sterile supply unit (SSU) to obtain sterile equipment for surgical emergencies.

7.6.6. Service units such as catering.

7.7. All EUs shall have the following services:

7.7.1. Ancillary services:

a. Radiological diagnostic services which includes with but not limited to the following **(APPENDIX 3)** :

i. Conventional radiography.

ii. Ultrasonography with doppler.

iii. Computed Tomography (CT) scan.

b. Access (in house or contract) to Magnetic Resonance Imaging (MRI).

c. Cardiac services for Doppler studies and 12-Lead ECG and rhythm strips.

d. Pulmonary services which includes but not limited to the following:

i. Blood gas determination

ii. CO oximetry.

iii. Peak flow determination

iv. Pulse oximetry

e. Foetal monitoring (non-stress test)/uterine monitoring in applicable facilities.

f. Laboratory requirements, refer to **Appendix 4** and DHA Standards for Clinical Laboratory Services.

g. Pathology lab.

7.7.2. Pharmacologic services:

a. List for Emergency Medications in all EUs shall be available for immediate use as per the DHA Emergency Medication Policy.

7.8. Minimum Staffing Requirements

7.8.1. All healthcare professionals in the health facility shall hold an active DHA full time professional license and work within their scope of practice.

7.8.2. All the healthcare professionals in the emergency unit shall be privileged as per the DHA Clinical Privileging Policy.

7.8.3. Emergency units shall be led by an Emergency Medicine Consultant.

7.8.4. All staff working in EU inclusive of physicians, nursing and non-clinical support staff shall report to the EU lead.

7.8.5. There should be at least one consultant or specialist in emergency medicine per shift in all EUs.

7.8.6. The following core specialities should be available, to give advice for patients on a 24-hour basis as part of emergency care.

a. Medical Physician(s)

b. Surgeon(s)

c. Paediatric surgeon.

d. Anaesthetist with paediatric skills.

e. Neonatologist.

f. Paediatric critical care specialist.

g. Obstetrician.

7.8.7. All healthcare professionals providing emergency services shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic Life Support (BLS) or cardiopulmonary resuscitation (CPR)

b. Advanced Cardiac Life Support (ACLS).

c. Advanced Trauma Life Support (ATLS) for physicians only

d. Advanced Trauma Care for Nurses (ATCN)

e. Advanced Life Support in Obstetrics (ALSO)

f. Neonatal Resuscitation Program (NRP).

7.8.8. Healthcare professionals licensed title Emergency Medicine, are exempted from having an active certification on the above life support courses.

7.8.9. At least one (1) registered Nurse (RN) trained in paediatric care and PALS certified should be responsible, either directly or in a supervisory role, for the nursing care of attending paediatric patients.

7.9. All EUs shall have the Medical Equipment and Supplies listed in **Appendix 5**

8. **STANDARD FOUR:** PAEDIATRIC EMERGENCY UNIT

8.1. In addition to the requirements of the general EU, the paediatric EU must be staffed and equipped to deal with the full range of ages and clinical presentations of children that it normally receives.

8.2. The scope of Paediatric Emergency Unit is:

8.2.1. To manage pediatric patients with major trauma and/or life-threatening conditions.

8.2.2. To manage acute complex presentation and case mix including mental health.

8.2.3. To have the capacity for invasive monitoring and short-term assisted ventilation.

8.2.4. To have the capacity to respond to local major incidents including a role in a formal disaster response plan.

8.2.5. To have a dedicated retrieval service or to transfer and receive critically ill pediatric patients to designated hospitals or centers.

8.3. All paediatric emergency services shall be open 24/7 and during public holidays, with unrestricted access to emergency paediatric care.

8.3.1. Must be always prepared to deal with the initial resuscitation of a child brought in unexpectedly.

8.4. In addition to the designated facility requirements in EU, paediatric emergency services shall ensure the following:

8.4.1. The emergency environment must be safe for children.

8.4.2. Children must be separated from distressing sights and sounds of other patients, with some separation from in the main waiting area.

8.4.3. The option of family-member presence must be permitted and encouraged for all aspects of EU care.

8.4.4. The EU must contain enough child-orientated treatment rooms (depending on the proportion of child EU attenders) with sufficient space to accommodate family members.

8.4.5. Areas dedicated for children should be clearly designated, furnished, and decorated in a manner that is colourful, comfortable and safe for both patients and their parents or guardians.

8.4.6. Breast-feeding and nappy changing rooms should be available.

8.4.7. Critical Care area which includes ICU and NICU.

8.4.8. Emergency staff must give health advice and explanations in a clear language and ensure mutual understanding.

8.4.9. Guidelines for medical treatment should be available for balancing the wishes of the child, legal responsibility of the guardian and the child's best interests.

8.5. In addition to the ancillary services in EU. The following Mandatory services should be provided on-site:

8.5.1. Respiratory Therapy.

8.5.2. Social workers and counsellors.

8.5.3. Mental health services.

8.5.4. Child protective services.

8.5.5. Physical Therapy.

8.5.6. Public Relation Officer.

8.6. All healthcare professionals providing Paediatric emergency services shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic Life Support (BLS)

b. Paediatric Advanced Life Support (PALS).

c. Neonatal Resuscitation Program (NRP).

8.7. Paediatric Emergency services should be staffed with a multi-disciplinary team that includes:

8.7.1. Paediatric EU shall be led by:

a. Paediatric Emergency Medicine Physician OR

b. Adult Emergency Medicine Physician OR

c. General Paediatric physician with minimum 5 years' experience in emergency.

8.7.2. At least one paediatric Specialist/Consultant shall be available per shift.

8.7.3. Anaesthesia specialist with an active Paediatric Anaesthesiology certification.

8.7.4. Nursing staff that are trained in paediatric care and are actively certified in PALS.

8.7.5. Emergency or Family Physician specialists who have completed Paediatric medicine training.

8.7.6. Radiographer.

8.7.7. Registration officer.

8.7.8. Quality officer.

8.7.9. Plaster technicians.

8.7.10. Phlebotomist.

8.7.11. Respiratory therapist

8.7.12. Ancillary services and allied health providers.

8.8. The EU shall have in place policies and procedures about child protection and child abuse including:

8.8.1. Clinical assessment of a child.

8.8.2. Recognition of possible child abuse.

8.8.3. Initial management of a child with possible or suspected abuse.

8.8.4. Notification of appropriate authorities about a case of possible or suspected child abuse.

8.9. All healthcare professionals must be aware of local laws and guidelines regarding consent to undertake examinations of children. Refer to the DHA Guidelines for Patient Consent.

8.10. All emergency units should be fully equipped with appropriate paediatric sized equipment, refer **Appendix 6.**

8.11. Ambulances in paediatric emergency services should be equipped with paediatric sized equipment as well as space to accommodate a parent or guardian during transportation.

9. **STANDARD FIVE:** MATERNITY EMERGENCY UNIT

9.1. The scope of Maternity emergency unit is:

9.1.1. To handle life-threatening gynaecologic and obstetric conditions.

9.1.2. To deliver neonatal emergency services, gynaecological and obstetric care, mental health care, as well as anaesthesia and surgical services on a 24-hourly service.

9.1.3. To treat all women with gynaecological and reproductive concerns, including females during pregnancy, during delivery and in their post-partum period.

9.1.4. To provide screening services for sexually transmitted diseases, reproductive counselling services and females presenting for breast and reproductive cancer screening.

9.1.5. To provide resuscitative and urgent care, including emergency surgical care, to their patients. These conditions may include but are not limited to:

a. Pre-eclampsia and eclampsia.

b. Sepsis, including pelvic inflammatory disease (PID), tubo-ovarian abscesses (TOA), endometritis.

c. Dysfunctional uterine bleeding, including life-threatening bleeding,

d. Premature rupture of membranes.

e. Suspected or ruptured ectopic pregnancies.

f. Complications of labour including prolonged or obstructed labour.

g. Post-partum haemorrhage.

h. Miscarriages.

i. Emergency Delivery.

j. Neonatal resuscitation following delivery.

k. Post-abortion care.

l. Family planning counselling.

m. Continuous foetal heart rate monitoring.

n. Breast disorders, including screening for cancer.

o. Female wellness screening, including Pap smears and reproductive cancer screening.

9.2. All Maternal Emergency Services shall be open 24/7 with unrestricted access to emergency paediatric care.

9.3. All maternity EUs should be adequately designed to receive patients with the layout and equipment as mentioned above in a general Emergency Unit and aligned with the DHA Health facility Guidelines Emergency Unit and should further include:

9.3.1. Breast-feeding and nappy changing rooms should be available.

9.3.2. Critical Care area which includes ICU and NICU.

9.4. All maternity EU shall have access to surgical consult services, labour and delivery suites.

9.5. In addition to the ancillary services in EU Services. The following Mandatory services should be provided on-site:

9.5.1. Respiratory Therapy.

9.5.2. Social workers and counsellors.

9.5.3. Mental health services.

9.5.4. Child and women protective services.

9.5.5. Physical Therapy.

9.5.6. Public Relation Officer.

9.6. All healthcare professionals providing Maternal emergency services shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic Life Support (BLS)

b. Advanced Life Support in Obstetrics (ALSO)

c. Neonatal Resuscitation Program (NRP).

9.7. Maternity emergency units shall be led by a consultant or specialist Obstetrics and gynaecologist.

9.8. Maternity EU shall be staffed by a multi-disciplinary team that includes:

9.8.1. At least one Obstetrics and Gynaecology Specialist/Consultant per shift.

9.8.2. Consultant or specialist Neonatologist per shift.

9.8.3. Anaesthesia specialist with active Neonatal Resuscitation Program (NRP) certification.

9.8.4. Nursing staff that are trained in obstetrics and gynaecology care or that are actively certified in advanced obstetric life support courses.

9.8.5. Registered nursing staff with a minimum requirement of current certification in advanced cardiac life support and paediatric advanced life support.

9.8.6. Midwifes that are actively certified in advanced obstetrics life support courses.

9.8.7. Emergency or Family Physician specialists who have completed Obstetrics or Women's Health Fellowship training.

9.8.8. Radiographer.

9.8.9. Phlebotomist.

9.8.10. Registration officer.

9.8.11. Quality officer.

9.8.12. Plaster technicians.

9.8.13. Ancillary services and allied health providers.

9.9. If no surgical or medical services are available, on-site, maternity EUs should have clear policies in place for transfer of patients to other facilities if the need arises.

9.10. The EU shall have in place policies and procedures about suspected maternal neglect, sexual abuse, intimate partner violence and child protection.

9.11. All Maternal emergency services should be fully equipped with appropriate equipment and supplies, including neonatal sized equipment, maintained for the Maternity Emergency unit. Refer to **Appendix 7.**

9.12. Policies, Procedures and Protocols other than the general mentioned above are as follows:

9.12.1. Triage patients in adherence to internationally accepted and validated modified triage acuity scores such as:

a. Modified Early Obstetric Warning Signs (MEOWS).

b. Maternal-Foetal Triage Index (MFTI), whenever applicable, in addition to Emergency Severity Index (ESI).

c. Canadian Triage and Acuity Scale (CTAS) to measure acuity.

9.12.2. During disaster event, it must have plans set in place for the care of pregnant patients with anticipated induction or scheduled deliveries.

a. Maternity emergency services must have policies for the appropriate triaging, referral or triaging away of patients depending on the available resources.

b. Must unify triage acuity tools for the pregnant patient utilized during disaster preparedness and activation. These may include CTAS, ESI, MFTI, MEOWS, as described above, or The Obstetric Triage by Resource Allocation for Inpatient tool (OB TRAIN).

c. In the case of disasters or evacuations, special care should be taken not to separate mothers from their new-borns.

10. **STANDARD SIX:** FREE-STANDING EMERGENCY UNIT

10.1. The scope of a Free-Standing Emergency Unit (FSEU) is similar to the scope of services of an Emergency Unit; except they are not attached to a hospital. The services include but not limited to:

10.1.1. Manage high acuity cases and life-threatening emergencies.

10.1.2. Provide initial diagnostic procedures as well as stabilizing interventions to the patients who are acutely ill or injured prior to transfer to a hospital-based emergency unit.

10.1.3. Transfer of patients on-campus or to a hospital-based emergency unit.

10.2. There are two types of FSEU:

10.2.1. Satellite emergency unit: A type of freestanding emergency unit (FSEU) owned and operated by a hospital system. Also known as satellite emergency unit, offsite emergency unit. A satellite emergency unit will follow the same rules, regulations and licensing requirements of the hospital system that it affiliates.

10.2.2. Independent freestanding emergency Unit: a type of Freestanding Emergency Unit (FSEU) owned, in whole or in part, by independent groups or by individuals.

10.3. An FSEU shall be capable of treating all age groups.

10.4. An FSEU shall operate 24/7, and during public holidays, with unrestricted access to emergency care.

10.5. The FSEU's shall have a similar designated facility requirement in EU, however it does not have in-patient capabilities and patients who require further care should be transferred to appropriately sourced facilities through local ambulance EMS systems or HLS.

10.6. The FSEU shall require the same ancillary services on-site to that of an EU.

a. If a unit lacks support services availability, it should ensure timely transfer to other facility for appropriate care.

b. If patient care mandates access to other medical services, such as surgical, orthopaedic, or medical sub-specialties, then an FSEU should have a clear policy set forth for such patient disposition and transfer to other facility.

10.7. Satellite emergency unit shall maintain the same monitoring and oversight of the off-campus emergency unit as it does for any other of its units.

10.8. All healthcare professionals providing emergency services in a FSEU shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic Life Support (BLS)

b. Advanced Cardiac Life Support (ACLS)

c. Paediatric Advanced Life Support (PALS).

10.9. FSEU shall be led by A DHA Licensed Emergency consultant.

10.10. Medical and nursing personnel should be qualified in emergency care and staffed to a number that meets the needs anticipated by the facility. The minimum staff requirements in a FSEU is as follows:

10.10.1. Registration officer.

10.10.2. Quality officer.

10.10.3. Medical staff practicing at the off-campus EU must be part of the hospital's single organized medical staff as required locally.

10.10.4. Specialist Physicians licensed in emergency medicine care.

10.10.5. General practitioners with experience working in emergency units, who have active certification in advanced life support courses, working under a licensed emergency specialist or a licensed emergency consultant.

10.10.6. Registered nursing staff with a minimum requirement of current certification in advanced cardiac life support and paediatric advanced life support.

10.10.7. Radiographer.

10.10.8. Phlebotomist.

10.10.9. Plaster technicians.

10.10.10. Housekeeping services and utility personnel must be available on site as well.

10.11. There shall be appropriate equipment and supplies maintained for the FSEC to include, but not limited to:

10.11.1. Vital sign monitoring equipment, including, but not limited to:

a. Thermometers.

b. Cardiac monitors for heart rate monitoring with defibrillating, pacing and cardioversion capabilities.

c. Oxygen saturation monitors, co-oximetry devices.

d. Blood pressure monitoring devices with adequately sized cuffs.

e. Weight Scale.

f. Point of care devices for rapid glucose and ketone levels check.

g. Immediately available oxygen with flow meters and masks or equivalent with available mechanical suction.

10.11.2. Airway maintenance and resuscitation equipment to include:

a. Resuscitation bags,

b. Laryngoscopies,

c. Blades of varying sizes and shapes,

d. Endotracheal tubes,

e. Cricothyrotomy tubes, and

f. Adapters.

10.11.3. FSEU should include the following devices:

a. Ventilation devices.

b. Nebulization devices.

10.11.4. Spine immobilization equipment to include rigid and/or semi-rigid collars.

10.11.5. Complete intravenous infusion sets and cannulation equipment, with Intravenous catheter needles of multiple sizes (14 Gauge to 24 Gauge needles), and Intravenous poles and rapid infusers.

10.11.6. Intraosseous cannulation equipment with adult and paediatric sizes available.

10.11.7. Adult and Paediatric crash carts fully equipped with different size equipment and periodically checked.

10.11.8. Otoscope, fundoscopy device, stethoscope, torch and tongue depressors.

10.11.9. Different size splints, bandages and slings.

10.11.10. Laceration repair kit, suturing material, adhesive bandages.

10.11.11. Foley's Catheters of multiple sizes, Coude catheters, Nasogastric tubes.

10.11.12. Newborn and paediatric resuscitation equipment.

10.11.13. Equipment for managing hypothermia (Blankets, warm humidifiers).

10.11.14. Lumbar Puncture sets, Central line cannulation kits, Thoracotomy tubes.

10.11.15. Wheelchairs and mobility assistance devices.

10.11.16. ECG machine.

10.12. There shall be appropriate equipment and supplies maintained for the Free-Standing Emergency Unit as mentioned in **Appendix 5**.

11. **STANDARD SEVEN:** RURAL EMERGENCY UNIT

11.1. Rural EU typically serve smaller, remote communities and provides 24/7 emergency medicine services for urgent or emergent cases to the rural population.

11.2. The scope of a Rural Emergency Unit is:

11.2.1. To provide adequate initial diagnostic, treatment and stabilization in life-threatening emergencies or acute injuries.

11.2.2. To dedicate at least one resuscitation area to provide advanced paediatric, adult, obstetric or trauma life support. Those areas must be fully prepared with equipment and medication.

11.2.3. To transfer of patients to higher level of care if required treatment is not available on-site.

11.3. Rural EU must be capable of treating all age groups.

11.4. Rural EU facilitate access to specialty care or consultation on a 24-hourly basis. Such services may be provided on-site, via transfer or via tele-health consultation at the discretion and capabilities of the concerned facility.

11.5. Permitted services for the rural EU shall include the following:

11.5.1. Diagnostic as well as laboratory services like x-ray, ultrasound, and computed tomography (CT) scanning, routine haematology, chemistry studies, pregnancy testing, and cardiac enzymes available on-site.

11.5.2. Intravenous (IV) medications, including resuscitative medications, IV fluids and narcotics available.

11.6. Rural EUs must be staffed with healthcare providers capable of delivering paediatric emergency services, gynaecological and obstetric care, mental health care, as well as anaesthesia services on a 24/7.

11.6.1. If no surgical or medical services are available on-site, tele-health consultation with specialized providers should be utilized.

11.7. All healthcare professionals providing rural emergency services shall have the following valid life support courses as per the unified healthcare professional's qualification requirements (PQR) as follows:

a. Basic Life Support (BLS) or cardiopulmonary resuscitation (CPR)

b. Advanced Cardiac Life Support (ACLS).

c. Advanced Trauma Life Support (ATLS) for physicians only

d. Advanced Trauma Care for Nurses (ATCN)

e. Paediatric Advance Life Support (PALS)

f. Prehospital Trauma Life Support (PHTLS)

11.8. The Rural EU shall be led by a DHA licensed Emergency Medicine Consultant.

11.9. The Rural EU should have the following healthcare professionals:

11.9.1. Specialist Paediatric Emergency Physicians or, Specialist Paediatric physicians with experience working in the EU.

11.9.2. General Practitioners with experience working in emergency units.

11.9.3. Registered Nurses

11.9.4. Radiographer

11.9.5. Phlebotomist

11.9.6. Plaster technicians

11.9.7. Registration Officer

11.9.8. Quality Officer.

11.10. Rural EUs shall require the same ancillary services to that of an EU with the following considerations:

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

11.11. Telehealth services may be used in rural EUs and should adhere to the DHA standards of Telehealth services. Services includes the following:

11.11.1. Telehealth consultations for:

a. medical sub-specialties such as and not limited to: respiratory, cardiology, gastroenterology, endocrinology, neurology, haematology, and oncology.

b. Mental health services.

c. Community services.

d. Surgical sub-specialties for stable patients not requiring immediate intervention.

11.11.2. If patient care mandates immediate access to other medical services, EUs should have a clear policy set forth for such patient disposition and transfer to other facility.

11.12. Rural EUs must communicate with local health authorities in the case an outbreak of disease is detected.

11.13. Rural EUs must have local EMS and HLA services to facilitate patient flow and transfers of patients.

11.14. There shall be appropriate equipment and supplies maintained for the Rural Emergency Unit as mentioned in **Appendix 5**.

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APPENDICES

APPENDIX 1 THE 5-LEVEL TRIAGE SYSTEM FOR EMERGENCY UNIT

Level	Status	Time to assessment
Level I	Resuscitation	See patient immediately
Level II	Emergency	Within 15 minutes
Level III	Urgency	Within 30 minutes
Level IV	Less Urgency	Within 60 minutes
Level V	Non Urgency	Within 120 minutes

APPENDIX 2: MEDICAL EQUIPMENTS AND SUPPLIES IN URGENT CARE SETTING

Urgent Care Center
▪ Vital signs measuring and monitor. ▪ Pulse oximetry. ▪ Thermometer. ▪ Glucometer. ▪ Urine analysis (available within 20 minutes). ▪ Otoscopes, fundoscopy, stethoscope. ▪ Torch and tongue depressor. ▪ Laceration repair kit with suturing material. ▪ Nebulizer and steam inhaler. ▪ Splints, crepe bandage and arm sling. ▪ ECG machine. ▪ Crash cart. ▪ AED

APPENDIX 3: RADIOLOGIC, IMAGING AND OTHER DIAGNOSTIC SERVICES IN EMERGENCY UNITS

Duration and availability	Services
The following should be available 24 hours a day for emergency patients	• Standard radiologic studies of bony and soft-tissue structures; • Emergency ultrasound services for the diagnosis of obstetrics/gynecologic, cardiac and hemodynamic problems and other urgent conditions and Doppler studies. • Computed tomography;
The following services should be available on an urgent basis, provided by staff in the hospital or by staff who is on call and responds within reasonable period as per the presenting case.	• Radiographic: ○ Arteriography/venography. ○ Dye-contrast studies (intravenous pyelography, gastrointestinal contrasts, and others). ○ Magnetic resonance imaging services or the ability to arrange for urgent MRI.

APPENDIX 4: SUGGESTED LABORATORY CAPABILITIES

Below laboratory capabilities are suggested for an EU that operates 24 hours a day. This list is not comprehensive and can be modifies as guidelines and requirements changes.

Laboratory capabilities	Services
Blood Bank	• Bank products availability; and • Type and cross matching capabilities.
Chemistry	• Ammonia; • Anticonvulsants and other therapeutic drug levels; • Blood gases; • Bilirubin (total and direct); • B-type natriuretic peptides (BNP); • Calcium; • Cardiac enzymes; • Creatinine; • Electrolytes (blood and CSF); • Ethanol (as applicable); • Glucose (blood and CSF); • Lactate; • Lipase; • Liver function test (ALT, AST, alkaline phosphatase); • Methemoglobin; • Osmolality; • Protein (CSF); • Serum magnesium; and • Urea nitrogen.

Haematology	• Cell count and differential (blood, CSF, joint and other body fluid analysis); • Coagulation studies; • Erythrocyte sedimentation rate; • Platelet count; • Reticulocyte count; and • Sickle cell prep.
Microbiology	• Acid fast smear/staining; • Chlamydia and gonorrhea testing; • Counter immune electrophoresis for bacterial identification; • Gram staining and culture/sensitivities; • Herpes testing; • Rapid viral testing (COVID, Influenza, and others); • Strep screening; • Viral culture; and • Wright stain.
Other	• Hepatitis screening; • HIV screening; • Mononucleosis spot; • Serology (syphilis, recombinant immunoassay); • Pregnancy testing (qualitative and quantitative); • Urinalysis.

APPENDIX 5: EQUIPMENT AND SUPPLIES FOR THE EMERGENCY UNIT

The items mentioned below should be available for instant use. The list does not include routine medical or surgical supplies such adhesive bandages, gauze pads and suture material. It does not also include routine office items such as paper, desks, paper clips, and chairs.

Location in Emergency Unit	Equipment and supplies
Entire Unit	• Central station monitoring capability; • Appropriate physiological monitors, including but not limited to temperature, blood pressure, heart rate, blood oxygen saturation; • Defibrillator with monitor and power source; • Nurse-call system for patient use; • Supplies for venipuncture and blood cultures; • Supplies for the administration of IV therapies; • Portable suction regulator; • Infusion pumps including blood transfusion pumps; • IV poles; • Adult and pediatric bag-valve-masks; • Portable oxygen tanks and oxygen supply; • Peak flow meter. • Blood/ fluid warmer and tubing; • Nasogastric suction supplies; • Nebulizer; • Urinary catheters, including but not limited to straight catheters, Foley catheters, Coude catheters, in addition to appropriate means for urine sample collection; • Intraosseous needles and placement equipment;

	• Lumbar puncture sets; • Blanket warmer; • Blanket cooler; • Tonometer; • Slit lamp; • Wheelchairs and other appropriate mobility devices and transfer-assist devices; • Medication dispensing system with locking capabilities; • Sterile separately wrapped instruments (specifics vary by unit); • Weight scales (adult and infant); • Pediatric treatment and dosing table (pediatric emergency tape); • Ear irrigation and cerumen removal equipment; • Vascular Doppler; • Anoscope; • Adult and pediatric crash cart; • Suture or minor surgical procedure sets (generic); • Portable sonogram equipment; • ECG (EKG) machine; • Point of care testing; • Influenza swabs; • Other necessary infection-related swabs or assays; • X-ray viewing capabilities; • Secure, modern and reliable computer system with access to electronic health/medical record; • High-speed, reliable and secure internet connection;

	• Patient tracking system; • Radio or other reliable means for communication with the pre-hospital care providers; • Patient discharged information system; • Patient registration system/information services; • Inter- and intraunital staff communication system – pagers, mobile phones; • ED charting system for physician, nursing, and attending physician documentation equipment; • Reference material (subscriptions) including toxicology information; • Appropriate personal protective equipment (PPE) based on the local infectious disease authorities; • Linen (e.g., pillows, towels, wash cloths, gowns, blankets); • Patient belongings or clothing bag with secure means of temporary storage; and • Equipment for adequate housekeeping.
General Examination Rooms	• Examination tables or stretchers appropriate to the area (for any area in which seriously ill patients are managed, a stretcher with capability for changes in position, attached IV poles, and a holder for portable oxygen tank should be used); • Step stool; • Equipment to perform pelvic exam; • Chair/ stool for emergency staff; • Seating for family members or visitors; • Adequate lighting, including procedure lights as indicated;

	• Adequate sinks for hand washing, including dispensers for germicidal soap and paper towels; • Wall mounted oxygen supplies and equipment, including nasal cannulas, face masks, and venturi masks; • Wall mounted suction capability, including both tracheal cannulas and larger cannulas; • Wall mounted or portable otoscope/ophthalmoscope; • Sphygmomanometer/stethoscope; • Biohazard-disposal receptacles, including for sharps; and • Medical/General waste receptacles for non-contaminated materials.
Resuscitation Room	All items listed for general examination rooms plus: ○ Access to adult and pediatric crash cart to include appropriate medication charts; ○ Newborn and pediatric resuscitation equipment. ○ Capabilities for direct communication with the nursing station (preferable hands free); ○ Radiography equipment; ○ Portable ultrasound; ○ Radiographic viewing capabilities; ○ Airway needs: ○ Adult, pediatric and infants' bag-valve masks. ○ Cricothyroidotomy instruments and supplies. ○ Endotracheal tubes, size 2.5 to 8.5 mm. ○ Fiberoptic laryngoscope, video laryngoscope, or alternative rescue intubation equipment. ○ Laryngoscopes, straight and curved blades and stylets.

	○ Access to Laryngoscope mirror and supplies. ○ Laryngeal Mask Airway (LMA). ○ Oral and nasal airways. ○ Access to Tracheostomy instruments and supplies. ○ Access to Neonatal airway kit which includes :straight blades, adequately sized masks, bags (T-piece, flow inflating, self-inflating) with manometer, endotracheal tubes, meconium aspirator, bulb syringes. ○ Breathing: ○ Noninvasive Ventilation System (BIPAP/CPAP). ○ Closed-chest drainage device. ○ Chest tube instruments and supplies. ○ Emergency thoracotomy instruments and supplies. ○ End-tidal CO2 monitor or module. ○ Nebulizer. ○ Pulse oximetry. ○ Portable transport ventilator with multiple modes (IPPV, SIMV, spontaneous, PS). ○ Circulation ○ Automatic noninvasive physiological monitor. ○ Blood/fluid infusion pumps and tubing. ○ Cardiac compression board. ○ Central venous catheter setups/kits. ○ Central venous pressure monitoring equipment. ○ Intraosseous needles insertion equipment available in different sizes for adults and pediatrics. ○ IV catheters, sets, tubing, poles.

	○ Monitor/defibrillator with pediatric paddle, internal paddles, appropriate pads and other supplies. ○ Pericardiocentesis instruments. ○ Rapid infusion equipment. ○ Temporary external pacemaker. ○ Access to Trans venous and/or transthoracic pacemaker setup and supplies. ○ 12-Lead ECG machine. ○ Blood pressure monitoring devices with adult/child sized cuffs. ○ Point of care devices for rapid glucose and ketone levels.
Trauma and Miscellaneous Resuscitation	• Blood salvage/auto transfusion device; • Hypothermia thermometer; • Infant warming equipment; • Spine stabilization equipment to include cervical collars, short and long boards; • Therapeutic hypothermia modalities; • Warming/cooling blankets. • Emergency obstetric instruments and supplies: ○ Emergency delivery kits (sterile drapes, towels, gauze, surgical blades, Kelly clamps, Cord clamps, rubber suction bulbs, gauze sponges, hemostatic forceps/tissue forceps, placenta basins). ○ Equipment kits for emergency Caesarean section (perimortem C-section).
Other Specialty Rooms	All items listed for general examination rooms plus: • Orthopedic ○ Cast cutter.

	○ Cast and splint application supplies and equipment. ○ Crutches. ○ External splinting and stabilization devices. ○ Radiographic viewing capabilities. ○ Traction equipment, including hanging weights and finger straps. • Eye/ENT ○ Eye chart. ○ Ophthalmic tonometry device (applanation, Schiotz, or other). ○ Other ophthalmic supplies as indicated, including eye spud, rust ring remover, cobalt blue light. ○ Slit lamp. ○ Ear irrigation and cerumen removal equipment. ○ Epistaxis instrument and supplies, including balloon posterior packs. ○ Frazier suction tips. ○ Headlight. ○ Laryngoscopy mirror. ○ Plastic suture instruments and supplies. • OB-GYN ○ Fetal Doppler and ultrasound equipment. ○ Obstetrics/ gynecology examination light. ○ Vaginal specula in various sizes. ○ Sexual assault evidence-collection kits (as appropriate). ○ Access to baby warmer

APPENDIX 6: EQUIPMENT AND SUPPLIES FOR THE PEDIATRIC EMERGENCY UNIT

Type of Equipment	Equipment and Supplies
General Equipment	• Weight scale in kilograms; • Blood pressure cuffs (Neonatal, Infant, Child); • Electrocardiography monitor/defibrillator with pediatric capabilities including pads/paddles; • Pulse oximeter with pediatric attachment; and • Pediatric stethoscopes.
Essential Equipment	• Pediatric airway and ventilation equipment including; o Appropriate oxygen delivery devices. o Bag valve masks: infant/adult with proper fitting masks. o Nasopharyngeal and oropharyngeal airways. o Endotracheal tubes of appropriate sizes. o Pediatric laryngoscopes with straight and curved blades. • Suction catheters; • Pediatric nasogastric tubes; • Pediatric infusion sets and catheters; • Intraosseous needles insertion equipments; • Appropriate vascular access devices; and • Central line catheters (4, 5, 6, 7 F).
Additional/special Equipment	• Lumbar-puncture tray with different lumbar puncture needles; • Supplies/kit for patients with difficult airway (Supraglottic airways of all sizes, laryngeal mask airway,

	needle cricothyrotomy supplies, surgical cricothyrotomy kit; • Chest tubes to include: 10, 12, 16, 24 F; • Newborn delivery kit, including equipment for resuscitation of an infant (umbilical clamp, scissors, bulb syringe, and towel); and • Urinary catheterization kits and urinary (indwelling) catheters (6F–22F).

APPENDIX 7: EQUIPMENT AND SUPPLIES FOR THE MATERNITY EMERGENCY UNIT

Type of Equipment	Equipment and Supplies
General Equipment	• Vital sign monitor • Thermometers. • Weight Scale. • Cardiotocographic (CTG) machine.
Other equipment	a. Humidified heated oxygen source. b. Compressed air source with oxygen blender. c. Radiant warmers with temperature sensor. d. Foam or hard wedge devices (i.e. Cardiff wedge device). e. Complete intravenous infusion sets and cannulation equipment, with Intravenous catheter needles of multiple sizes (14 Gauge to 24 Gauge needles), and Intravenous poles and rapid infusers. f. Neonatal cannulation and catheterization kits that include umbilical vein and artery access equipment in multiple sizes, umbilical tape. g. Foley's Catheters of multiple sizes, Coudé catheters, Nasogastric tubes h. Equipment for managing hypothermia (Blankets, warm humidifiers). i. Lumbar Puncture sets, Central line cannulation kits, Thoracotomy tubes j. Wheelchairs and mobility assistance devices. k. ECG machine. l. Infection-related swabs or assays (influenza swab, wound culture swab, vaginal swab).

	m. Ultrasonography machines with appropriate probes (vaginal, abdominal, vascular, and cardiac). n. Vaginal Speculums. o. Access to Word Catheters. p. Pelvic examination kits.