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# STANDARDS FOR TELEHEALTH SERVICES

## Version 3

Issue date: 22/08/2021

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Health Policies and Standards Department

Health Regulation Sector (2021)

## 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 Telehealth Services aims to fulfil the following overarching DHA Strategic Objectives and Program within the Dubai Health Strategy (2016–2021):

- **Objective 1:** Position Dubai as a global medical destination by introducing a value-based, comprehensive, integrated and high-quality service delivery system
- **Objective 2:** Direct resources to ensure happy, healthy and safe environment for Dubai population

- **Strategic Program 10:** Excellence and Quality, which promotes excellence in healthcare service delivery in Dubai while enhancing patient happiness, experience, satisfaction and trust.

## ACKNOWLEDGMENT

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

### Health Regulation Sector

#### Dubai Health Authority

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## EXECUTIVE SUMMARY

The advancements in medical and communications technology has had a profound impact on the healthcare services globally. Telehealth offers the opportunity to improve the delivery and accessibility of healthcare services at low cost. It also provides the means for leveraging scarce resources and improving care and access for patients in remote areas. The appropriate application of telehealth technologies can enhance the provision of healthcare services by facilitating communication between physicians/nurses/allied health professionals and patients. Telehealth services include but are not limited to scheduling appointments, assessment, providing medical advice, treatment, therapy, laboratory testing, diagnostics, surgery, monitoring chronic conditions, counselling and prescribing and dispensing of medications. The DHA Standard was developed to improve the scope, effectiveness, efficiency, quality, and safety of Telehealth services in the Emirate of Dubai. Telehealth is divided into six key areas:

- Teleconsultation;
- Telediagnosis;
- Telemonitoring (remote patient monitoring);
- Mhealth (Mobile Health);
- Telerobotics and robot-assisted services; and
- Telepharmacy.

The Standard should not be construed by DHA licensed health facility or professional for the delivery of healthcare services in a manner that is not authorized by federal and local laws and regulations.

The key updates on Version 3 are as follows:

1. Section 5.1 All facilities providing telehealth are required to seek licensure from DHA (page 21)
2. Section 5.2: Telehealth should form part of business continuity plans (page 21).
3. All existing telehealth platforms intended for internal or commercial use shall be assessed and approved by DHA (page 22).
4. Section 5.3 exceptions to store, develop, or transfer data and health information outside the country.
5. Section 5.3: Examples for telehealth accreditation are provided (page 23).
6. Section 8.1: Requirements for electronic consent have been updated (page 35).
7. Standard 12: Some subsections within telepharmacy have been updated (page 55).
8. Section 16.11.9: Sick leave has been extended from (1) day to (3) days (page 61).

## DEFINITIONS

**Asynchronous:** Refers to non-steady stream transfer (store and forward) of patient data and information from different sources e.g. electronic health records or imaging records.

**Clinical Assessment:** Is the assessment of the patient's physical and mental condition for a diagnosis, treatment or prognosis.

**Consent:** Is a declaration of a person's willingness and choice to undergo a consultation, procedure, treatment, investigation or other intervention such as remote monitoring. Consent is needed as an ethical instrument demonstrating the right of the patient to control their health care and the physician's ethical duty to involve the patient in their care. Consent evidences voluntary choice of treatment by a competent patient following physician disclosure of all related information necessary for decision-making. Consent for incompetent or underage patients must be obtained for the patient's legal guardian up to the fourth degree as per UAE Law.

**Electronic Consent:** Is the use of secure electronic systems and processes that may adopt multiple electronic media (e.g. text, audio, platforms, interactive voice recognition, finger print recognition devices) to obtain patient consent.

**Electronic Communication:** Any transfer of signs, signals, writing, images, sounds, data, or information transmitted in whole or in part by a wire, wireless, radio, electromagnetic, photo electronic or photo optical system with others, either individually or in groups.



**Electronic Health Record:** Any electronic file, document, data or health information related to the patient, containing retrospective, concurrent and scheduled information which is digitally captured and stored for provision of effective, safe and high-quality healthcare services.

**E-referral:** Is the process of referring the patient to a relevant healthcare professional or health facility with e-health technologies to receive expert advice or definitive treatment. E-referral procedures require prior agreements and approved procedures for referral with the concerned health facility (exception e-claims link). The agreements will reflect on the obligations of each health facility, including the exchange the patient's health information and data and referral criteria for clinical assessment and treatment. E-referral includes admission, transfer, and follow up of patient health status following treatment and is only performed upon obtaining patient consent.

**Health Facility:** A DHA licensed entity that is authorised to provide medical services whether its owner or manager is an individual or an organization.

**Health Information:** Health data processed and made apparent and evident whether visible, audible or readable, and which are of a health nature whether related to health facilities, health or insurance facilities or beneficiaries of health services.

**Information and Communication Technology:** Is an extensional term for information technology (IT) that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software, middleware, storage, and audio-visual systems, that enable users to access, store, transmit, and manipulate information.

**License:** Authorisation granted by DHA to the health facility to provide healthcare services within the Emirate of Dubai under the jurisdiction of DHA.

**Medical Director:** A DHA licensed physician or dentist who manages and runs and has clinical oversight of a DHA licensed health facility and its clinical staff.

**Medication Therapy Management (MTM):** Are services that focus on identifying, preventing, and solving drug related problems to optimize therapeutic outcomes for individual patients to optimize medication use while employing the best practice guidelines.

**Mobile Health (Mhealth):** Is the use of technologies/applications and wireless mobile devices such as mobile phones, tablets, laptops for provision of telehealth services and self-care management.

**Nurses and Allied Health Professionals:** Are healthcare professionals licensed by DHA as per the Unified Healthcare Professional Qualification Requirements for the UAE.

**Patient:** A person who receives the healthcare services or the medical investigation or treatment provided by a DHA licensed healthcare professional within a DHA licensed health facility.

**People of Determination:** Are people with special needs or disabilities and includes any person that suffers from physical, intellectual or sensory disability that hinders their ability to actively participate in the community in the same manner as healthy people.

**Physical Examination:** Is an evaluation of the bodily functions with medical tools during a face-to-face in person consultation between the physician and the patient.

**Physician:** Refers to a DHA licensed physician or dentist who by education, training and certification is qualified to provide healthcare services within their scope of license with privileges granted by the Medical Director.

**Practicing Care Site:** Is the location where telehealth services are being provided.

**Prescription Only Medicine:** A Ministry of Health and Prevention (MOHAP) registered medication that requires an official prescription to be dispensed to patients.

**Privileges:** Is the process of issuing a DHA licensed physician/dentist permission to carry out specific duties as per DHA Policy.

**Receiving Care Site:** Is the location where telehealth services are received.

**Referral:** Is the process of directing or redirecting a patient to an appropriate specialist or health facility for definitive treatment as part of an agreed referral system. A referral system includes protocols for patient admission, discharge, transfer, acceptance, and follow up care.

**Service Provider:** Refers to healthcare professionals such as hospitals, nurse practitioners, chiropractors, physical therapists, and others offering specialized health care services.

**Synchronous:** Refers to provision and transfer of patient's data and information simultaneously using real time, interactive audio and/or video connections that transmit bidirectional images and information between the physician and the patient during service delivery.

**System:** A set of electronic data and health information exchange operations, involving a set of electronic parts or components that link together and work together to achieve a specific goal.

**Teleconsultation:** Is the use of information and communication technologies (telephone, voice over internet protocol and high-resolution video-conferencing services) to offer medical advice

and treatment to patients. Teleconsultation may be conducted between two physicians, between a physician and a patient, or between a physician and patient with another physician where either party is not in the same location. Teleconsultation excludes face-to-face in person consultation or adhoc follow up call following face-to-face in person consultation.

**Telediagnosis:** Is the use of information and telehealth technology at a remote site to determine the nature of disease and facilitate faster and accurate diagnosis (or prognosis) of the patient and includes but is not limited to radiology, dermatology and pathology.

**Telehealth:** Involves the use of telecommunications and virtual technology to deliver healthcare services remotely outside of the traditional healthcare facility setting and without a physical presence and examination of the patient. It is used to exchange patient's medical information from one site to another via the available electronic communication platforms such two-way video, email, smart phones, wireless tools and other forms of telecommunication technology to assess and evaluate the patient's health status for treatment purposes. Telehealth facilitates the delivery of health and health-related services including patient assessment, diagnosis, treatment, therapy, referral, provider and patient education and self-care, exchange of health information services via telecommunications and digital communication technologies.

Telehealth services is divided into six key areas:

- Teleconsultation;
- Telediagnosis;
- Telemonitoring (remote patient monitoring);
- Mhealth (Mobile Health);

- Telerobotics and robot-assisted services; and
- Telepharmacy.

**Telehealth Assistance:** Includes the services, devices and software that individuals (or their legal guardian) may use to manage and promote the patients' health and well-being.

**Telehealth Diagnosis:** Is the use of telehealth diagnostic technology by the healthcare provider to determine the patients' health condition.

**Telemonitoring** (remote patient monitoring): Is the use of telehealth technology to remotely monitor and collect patient data to manage their condition.

**Telehealth Platform:** Refers to a digital platform for the provision of remote telehealth services as per DHA Standards. A telehealth platform may include a smart device, mobile application, a computer software, or web interface system.

**Telepathology:** Is the use of telecommunication technology for transfer of high-quality pathological data or test and imaging produced in a diagnostic centre or laboratory for the purposes of diagnosis, education and research.

**Telepharmacy:** Is the delivery of pharmaceutical care through telehealth technology and includes prescribing and dispensing of medications, medical products, herbal, food supplements, cosmetic products, formulary compliance, patient counselling, medicine therapy management, automated packaging and labelling systems.

**Teleprescribing:** Is a DHA licensed physician authorised to remotely prescribe treatment when distance separates the physician and the patient by using teleconsultation services or prescribe

treatment based on a previous clinical assessment carried out through face-to-face in person by a physician within the expected prescribing period for the specified condition or disease.

**Teleradiology:** Is concerned with the transmission of digitized medical images (as X-rays, CT scans, and sonograms) over secure electronic networks with the interpretation of the transmitted images for diagnostic, treatment, education and research purposes.

**Telerobotics and Robot-Assisted Services:** Is the use of non-autonomous, remote assisted robotic medical devices for consultation, diagnosis or surgery where the physician is at a remote site for patient consultation, diagnosis and/or to perform a surgical task by a robotic system controlled by the physician at the remote site. The remote site may include a nearby location, adjacent room or facility (short distance system) or within in another geographic location (long distance system). Telerobotics for medical purposes is a combination of two major subfields, teleoperation and telepresence and chiefly uses wired, wireless network or tethered connections.

## ABBREVIATIONS

<b>AED</b>	: Automated External Defibrillator
<b>AI</b>	: Artificial Intelligence
<b>BLS</b>	: Basic Life Support
<b>CSP</b>	: Cloud Service Provider
<b>CPD</b>	: Continuing Professional Development
<b>DED</b>	: Department of Economic Development
<b>DESC</b>	: Dubai Electronic Security Center
<b>DHA</b>	: Dubai Health Authority
<b>HRS</b>	: Health Regulation Sector
<b>ICT</b>	: Information and Communication Technology
<b>KPI</b>	: Key Performance Indicator
<b>MD</b>	: Medical Director
<b>MOHAP</b>	: Ministry of Health and Prevention
<b>MOU</b>	: Memorandum of Understanding
<b>MTM</b>	: Medication Therapy Management
<b>NESA</b>	: National Electronic Security Authority
<b>NOC</b>	: No Objection Certificate
<b>NSAID</b>	: Non-Steroidal Anti-Inflammatory Drugs
<b>OTC</b>	: Over the Counter
<b>PDA</b>	: Personal Digital Assistant

- 
- POM** : Prescription Only Medicines
- PRM** : Patient Remote Monitoring
- RTTE** : Radio and Telecommunications Terminal Equipment
- RN** : Registered Nurse
- SOP** : Standard Operating Procedure
- TRA** : Telecommunication Regulatory Authority
- UAE** : United Arab Emirates



## 1. BACKGROUND

Health systems across the globe are facing unprecedented challenges. These challenges include an ongoing need to address the rising burden of ill health and disease, balance cost, access and quality and meet patient expectations. The rapid pace of information and technology and medical science has led to many healthcare innovations such as Telehealth. Telehealth was originally established to treat patients in remote areas or in areas where there is a low supply of health professionals. Over the past decade, telehealth has increasingly been accepted as a new way to improve access to healthcare services in both rural and urban areas at affordable cost.

In 2019, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister and Ruler of Dubai, published a Fifty-year Charter with nine articles for Dubai. Article No. 5, A Doctor to Every Citizen, states, “We aim to provide citizens with medical consultations 24/7 through hundreds of thousands of doctors, specialists and medical consultants across the globe. This will be facilitated by smart government application. Our goal is to transform the medical system to bring doctors closer to individuals, enhance awareness and utilize top medical minds globally to serve the health of our citizens”. In 2019, an addendum to Cabinet Decree no. (40) Of 2019, Concerning the Executive Regulations of the Federal Law no. (4) Of 2016, Concerning Medical Liability set out the Regulations and Conditions for providing telehealth services in the UAE. Telehealth is aligned with the vision of Dubai leadership and is embedded within the following documents:

1. Dubai Health Strategy 2016–2021.
  - Program 1. Care Model Innovation:
    - # 1.3 Telemedicine solution
    - # 1.4 Introduce innovative medical technologies in the provision of healthcare services
    - # 1.6 Enhance home and remote care
  - Program 4. Primary Care:
    - # 4.1 Promote Primary Care as an Entry Point
    - # 4.5 Develop and Innovate in the provision of Primary Care delivery model
2. Dubai Clinical Services Capacity Plan (2015-2020)
3. Dubai Health Investment Guide (2019)
4. DHA Health Information Interoperability Standards
5. DHA Code of Ethics and Professional Conduct.
6. Dubai Universal Design Code
7. Federal Law No. (2) Of 2019, Concerning the use of ICT in health fields
8. Ministerial Decision no. (51) of 2021 concerning the health data and information which may be stored or transferred outside the country.
9. The Federal Decree-Law No. (5) Of 2012, Concerning Combating Cybercrimes
10. Dubai Executive Council Resolution No. (32) Of 2012, Concerning Regulating the Practice of Health Professions.
11. The Federal Decree-Law No. (4) Of 2016, Concerning Medical Liability.
12. Addendum to Cabinet Decree no. (40) Of 2019, Concerning the Executive Regulations of the Federal Law no. (4) Of 2016, Concerning Medical Liability set out the Regulations and Conditions for providing telehealth services

The Standards for Telehealth Services represents a milestone toward the improvement of technological and innovative advances in medicine to enable low cost accessible healthcare solutions in the Emirate of Dubai. The Standards set out the minimum requirements to maintain the highest degree of professionalism and ensure protection of patient data and confidentiality in line with federal and local laws and regulations.

## 2. PURPOSE

- 2.1. To set out the minimum Standards for provision of Telehealth services within DHA licensed Health Facilities.
- 2.2. To establish minimum requirements for DHA licensed physicians to provide efficient, secure, safe and high-quality Telehealth services.
- 2.3. To support Healthcare Innovation and Health Technology development in the field of medicine.
- 2.4. To set out the exclusions for the provision of Telehealth services.
- 2.5. To set out the minimum requirements for monitoring and evaluation of Telehealth services provided by DHA licensed health facilities.

## 3. SCOPE

- 3.1. Telehealth services provided within the jurisdiction of DHA.

#### 4. APPLICABILITY

4.1. DHA licensed healthcare professionals and health facilities.

4.2. Exclusion for telehealth services:

4.2.1. Emergency cases for immediate life threatening intervention or referral.

4.2.2. Prescribing of narcotic, controlled or semi-controlled medication.

4.2.3. Platforms used for face-to-face in person consultation.

4.3. Video recording:

4.3.1. Video recording during patient consultation and storage of patient video files.

- a. The healthcare provider may opt to record video on an adhoc or time limited basis e.g., medical education, quality improvement or Tele-ICU.

There must be documentation for this including but not limited to:

- (i) Compliance with UAE Law.
- (ii) Purpose and justification.
- (iii) The responsible person.
- (iv) Protocol for capturing, anonymising, pseudonymising, storing, using video files.
- (v) Security measures (including encryption), backup plan to protect and safeguard video files.
- (vi) Obtaining written consent.
- (vii) Duration for storage and measures for its deletion.
- (viii) Risk assessment plan for potential breaches and response measures.

## 5. STANDARD ONE: HEALTH FACILITY REGISTRATION AND LICENSURE REQUIREMENTS

5.1. All DHA licensed health facilities are required to have in place telehealth service(s) for usual care or as part of their business continuity plans.

5.1.1. All DHA licensed health facilities must comply with UAE Federal and local Laws and Regulations and be licensed by DHA.

5.1.2. Telehealth providers that are providing continuity of care to patients are outside the Emirate of Dubai shall comply with the regulatory requirements of the respective jurisdiction (**Appendix 1**).

5.2. The provision of telehealth services shall only be offered through a DHA licensed telehealth facility.

5.2.1. Only DHA licensed health facilities are eligible for telehealth services.

5.2.2. Telehealth service license categories include:

a. Added service to an existing DHA licensed health facility category.

b. Standalone Telehealth Centre.

c. Telehealth Booth.

(i) Telehealth Booth shall be licensed separately by means of their specific location.

(ii) Written permission must be obtained from the respective property owner(s) for the site(s) of the booth.

(iii) Minimum timeframe for booth location will be subject to DHA licensing rules.

### 5.3. Telehealth Platforms:

5.3.1. All existing telehealth platforms intended for internal or commercial use shall:

- a. Be assessed and approved by DHA through health facility licensing prior to in house implementation or go to market implementation.
- b. Have legal representation in Dubai with relevant commercial/trade license issued by the concerned authority.
- c. Have an assigned Business Technical Director.
- d. Provide access to technical support with defined escalation matrix (response and resolution) for platform users (physicians and patients).
- e. Comply with the requirements and ensure all communication channels are approved by the TRA in the UAE.
- f. Ensure all data stored complies with the Federal Law No. (2) for the year 2019 on the Use of Information and Communications Technology (ICT) in Healthcare.
  - (i) All data centres shall be at least Tier 3 Certified.
  - (ii) All data shall be stored in a server located at a Cloud Service Provider (CSP) certified by Dubai Electronic Security Centre (DESC) in the UAE.
  - (iii) All platforms shall have HIPAA compliance certification.
  - (iv) All platforms shall have ISO 27001 compliance certification.

- g. It is not permitted to store, develop, or transfer data and health information outside the country that is related to health services provided within the country, except in cases mentioned in Article no. (2) of the Ministerial Decision no. (51) of 2021.

5.4. Telehealth service providers are encouraged to seek international recognized telehealth accreditation to assure compliance with Federal Law No. (2) Of 2019, concerning the use of ICT in health fields. Accrediting bodies that are specific to telehealth include but are not limited to:

5.4.1. Quality and Accreditation Institute (QAI).

5.4.2. Utilization Review Accreditation Commission (URAC).

5.5. A DHA licensed health facility shall ensure medical liability/malpractice insurance is in place throughout the duration of telehealth service provision.

5.6. A DHA licensed Health Facility shall:

5.6.1. Comply with DHA requirements for licensure, timeframes for submission and resubmission of documentation and adhere to any corrective measures issued by HRS.

5.6.2. Employ the minimum required number of physicians for the provision of telehealth services as per DHA Policy for Licensing Health Facilities.

5.6.3. Install equipment, devices and technologies approved by Ministry of Health and Prevention (MOHAP) that are required for telehealth service delivery, including peripheral devices and associated software.

- 5.6.4. Ensure a written Contract or Memorandum of Understanding (MOU) is in place and kept up to date where telehealth service provision entails two or more entities.
- a. The MOU shall detail out the roles and responsibilities of each party and align with UAE Federal and local Laws and Regulations.
  - b. The DHA licensed health facility shall maintain a record of all physicians engaged in telehealth services.
  - c. The DHA licensed health facility shall be responsible to ensure the partnering health facility is made aware of the applicable UAE Federal and Local Laws and Regulations for telehealth services and assure compliance across both regulatory jurisdictions.
- 5.6.5. Have in place the following policies and procedures:
- a. Telehealth service description with scope of services available to members of the public.
    - (i) The service description shall fulfil patients' healthcare needs and assure continuity of care.
  - b. Patient identification, selection and risk assessment.
  - c. Patient consent.
  - d. Use of Information Technology Systems including machine learning and artificial intelligence technologies.
  - e. Clinical care pathways and prescribing protocols.



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- (i) Clinical care pathways and prescribing protocols must include red flags for referral and emergency referral and be reviewed on a periodic basis.
  - (ii) Amendments to clinical care pathways and prescribing protocols must be documented.
- f. Health record documentation management.
  - g. Patient privacy and confidentiality.
  - h. Patient referral, follow up and continuity of care.
  - i. Incident recording and reporting.
  - j. Quality and safety improvement.
  - k. Business continuity.
  - l. Emergency protocol for emergency patient cases.
  - m. Equipment testing, maintenance and failure management.
  - n. Network and data confidentiality, transmission, storage and access security.
- 5.7. A health facility providing telehealth services shall ensure all of the following requirements are met.
- 5.7.1. Equipment and devices for distant site use are compatible in accordance with requirements for technology and technical safety and security for the UAE.
  - 5.7.2. Equipment and devices approved for medical use are in good functioning condition.

- 5.7.3. Equipment maintained in accordance to the manufacturer's specifications to support all applicable telehealth services.
- 5.7.4. Availability of integrated IT infrastructure with uninterrupted connectivity and adequate bandwidth.
- 5.7.5. The IT infrastructure must have the capability to integrate with healthcare provider electronic health records (EHR) system. The health records system shall integrate with Nabidh to ensure full integration of HER in Dubai.
- 5.7.6. Provision of necessary systems and software to comply with the relevant telehealth requirements.
- 5.7.7. Provision of uninterrupted/backup power supply.
- 5.7.8. Provision of secure servers located in the UAE with relevant data backup.
- 5.7.9. Provision for technical systems to record and document patient information and telehealth services.
- 5.7.10. Protection of information stored in the electronic health records.
- 5.7.11. Secure, private and soundproof workspaces to safeguard patient privacy and confidentiality and limit access to authorised and responsible staff. Patient privacy must include:
  - a. Privacy of personal information.
  - b. Privacy of personal communications.
  - c. Privacy of consulting space.

5.7.12. Ensure alternative ways of communication between the healthcare service provider and patient are in place.

## 5.8. Telehealth Booth

5.8.1. In addition to requirements mentioned above, a DHA licensed telehealth booth must ensure:

- a. DHA is informed at least two (2) weeks prior to the allocation or relocation of the telehealth booth and be granted the necessary approvals before commencing services.
- b. MOHAP approval must be granted for the importation and use of medical devices within the booth.
- c. The booth shall include a waiting area as per the minimum requirements for an outpatient clinic.
- d. The booth shall allow for patient privacy during the provision of telehealth services.
- e. The booth shall adhere to infection control and fire safety protocols.
- f. The booth shall maintain a portable Automated External Defibrillator (AED).
- g. At least one (1) Registered Nurse (RN) with up to date Basic Life Support (BLS) training must be present at the booth during operating hours.

- h. Telehealth booth providers must ensure that there is a minimum of one (1) accountable DHA licensed physician responsible for the service.
- i. Telehealth services via booth shall only be provided to stable patients.
- j. All sessions shall be documented in the patient's health record as per DHA requirements.

## 6. STANDARD TWO: HEALTH FACILITY MANAGEMENT RESPONSIBILITIES

6.1. The management team of the DHA licensed health facility providing telehealth services shall ensure:

6.1.1. Compliance with applicable UAE federal and local laws regulations including:

- a. NESIA IAS Standards and any specific IAS standards related to telehealth services.
- b. TRA registration and approval of Radio and Telecommunications Terminal Equipment (RTTE) and devices.
  - (i) Compliance with Data Centre and hosting services
  - (ii) Communication channels related to voice over IP and video conferencing.
- c. MOHAP registration and approval medical devices and pharmaceuticals.
- d. DHA interoperability Standards.
- e. DHA requirements for electronic platforms including machine learning and artificial intelligence technologies.

6.1.2. Governance and clinical oversight of telehealth services.

- 6.1.3. Provision of adequate supply and qualified human resources to provide telehealth services.
- a. Telehealth service management must not compromise staffing requirements essential to provide ongoing healthcare face-to-face in person service(s).
- 6.1.4. Employ or outsource professionals with suitable credentials, experience, skills and qualifications to train, assess and evaluate physicians and administration staff on an ongoing basis on the core competencies required for telehealth services. Training must always be documented and shall include:
- a. Benefits and limitations to telehealth.
  - b. Legal, ethical and clinical aspects of telehealth.
  - c. Medical liability and the complaints management process.
  - d. Code of conduct of health professionals as per DHA requirements.
  - e. Use of IT and telehealth communication systems and processes.
  - f. Electronic health record keeping.
- 6.1.5. Management must ensure physicians receive ongoing Continuing Professional Development (CPD) in order to ensure physicians maintain the necessary knowledge and competencies continuous effective, safe and high-quality telehealth services within the remit of their specialisation.

- 6.1.6. Identify, develop and ensure compliance with operational policies and procedures essential for effective telehealth service delivery and ensure their periodic review.
- 6.1.7. Comply with patient privacy, consent, confidentiality, protection and security of data and maintain systems and processes for data collection, storage and backup of patient health information in accordance to UAE Federal and local laws and regulations. Management must ensure:
- a. Validity and credibility of health data and information by maintaining safety protocols for vandalism, damage, modification, alteration or unauthorized deletion.
  - b. The availability of health data and information to authorized staff, when needed.
  - c. The information systems used and their interoperability are compatible with the exchange and compilation of health data and information.
  - d. The storage, development, or transfer health data and health related information outside the UAE is prohibited unless approved by DHA.
  - e. The written consent of patient data is obtained for transfer of data or for its use for non-health related purposes.
- 6.1.8. Have in place an electronic health record system that guarantees patient identification, authentication, collection of safe, secure and comprehensive

patient information during the provision of telehealth services, including voice recording in for quality control and quality improvement.

a. The telehealth provider must ensure all patient data and information is made available in the required format upon HRS request.

6.1.9. Develop and implement Standard Operating Procedures (SOPs) governing telehealth services.

6.1.10. Ensure policies are in place for billing, scheduling, cancellation and refunds.

6.1.11. Develop and implement a systematic quality improvement and performance management process that encompasses quality assurance and quality control.

6.1.12. Provide an appropriate environment and culture to encourage physicians and administrative staff to report and document incidents.

a. Develop and implement a process to effectively identify and manage incidents and rectify any issues in an integrated manner, including serious incidents.

b. Report all sentinel events and major incidences to the DHA Medical Complaints Section.

6.1.13. Have in place formal complaint and grievance process to resolve any potential ethical concerns or issues related to provision of telehealth services.

6.1.14. Ensure access to Telehealth services does not exclude People of Determination.

6.1.15. Ensure the following information for the bespoke telehealth service(s) are available online for the public:

- a. Health facility name, location, contact details, catalogue of services provided, days and hours of operation etc.
- b. Appropriate uses and limitations of telehealth services, especially emergency cases.
- c. Information on physicians privileged to provide telehealth services, including licensure title, the licensing authority, qualifications, training, experience, specialisation and contact details.
- d. Medical conditions that could be treated using the telehealth services.
- e. Timeframe for responding to enquiries received in writing or by other means of electronic communication.
- f. Circumstances in which patient health information may be disclosed.
- g. Rights of patients with respect to patient health information.
- h. Feedback regarding the site and the quality of information and services.
- i. Mechanism to register complaints, including information regarding filing a complaint.
- j. All service fees, payment options and refund Policy.
- k. Terms and conditions for the service
- l. Disclosure for any product or service information provided through third party agreements.



## 7. STANDARD THREE: PHYSICIAN, NURSES AND ALLIED HEALTH RESPONSIBILITIES

- 7.1. Physicians, nurses and allied health professionals shall only provide telehealth services through one of the available telehealth licensing categories set out in section 5.
- 7.2. Telehealth services shall be physician led.
- 7.3. DHA licensed Physicians, nurses and allied health professionals must be privileged to provide Telehealth services as per DHA requirements for Clinical Privileging.
  - 7.3.1. The service must be Physician-led and must comply with UAE federal and local laws and regulations and work within the scope of their license, specialty and granted privileges.
  - 7.3.2. Physicians providing telehealth services shall comply with the professional licensure requirements set out in **Appendix 1**.
  - 7.3.3. Nurses and allied health professionals may provide telehealth services under the direction and clinical supervision of the treating physician.
- 7.4. Training on the use of telehealth services shall be documented and will include core competencies to ensure quality and patient safety.
- 7.5. Physicians, nurses and allied health professionals are obligated to:
  - 7.5.1. Inform and educate the patient (or their legal guardian) of all relevant information such as scope of services, structure and timing of services, health

- record keeping, privacy and confidentiality, potential risks and future communication and follow-up, prior to the start of the telehealth encounter.
- 7.5.2. Share with the patient the full cost of services, and check the patient's insurance plan prior to commencement of services.
- 7.5.3. Inform the patient (or their legal guardian) about the conditions under which telehealth services may be terminated and when patient referral is required for face-to-face in person consultation.
- 7.5.4. Provide the patient (or their legal guardian) information in a language that can be easily understood.
- 7.5.5. Respect the patient (or their legal guardian) requests for face-to-face referral.
- 7.5.6. Engage the patient (or their legal guardian) to participate in their care plan.
- 7.5.7. Recognise and abide by DHA requirements for patient rights and responsibilities.
- 7.5.8. Maintain the highest degree of professionalism as per DHA professional code of conduct and place the welfare of the patient first.
- 7.5.9. Take appropriate steps to establish a professional patient relationship.
- 7.5.10. Ensure all appropriate evaluations and history of the patient are performed and documented in accordance with the requirements for provision of telehealth services.

- 7.6. Physicians must comply with the scope and rules for prescribing for telehealth services in accordance to UAE federal and local laws and regulations.
- 7.6.1. Physicians must be diligent when prescribing medications and consider frequent prescribing of medications that are addictive, unsafe or deemed unusual in their request or dosage or are contraindicated.
- 7.6.2. Limitations to prescribing without confirmatory laboratory testing shall be explained to the patient.
- 7.6.3. The patient must be made aware of medications groups that cannot be prescribed through telehealth.
- 7.6.4. The patient must be made aware of the risks associated with prescribed medications.
- 7.7. The minimum number of CPD hours for telehealth shall match the provision of face-to-face in person services per speciality.
- 7.8. All patient engagement through telehealth services shall documented for audit, quality improvement and inspection.

## **8. STANDARD FOUR: PATIENT CONSENT**

- 8.1. The health professional shall obtain and document evidence of consent from the patient or legal guardian, for the use of telehealth services, which shall be embedded within the service workflow and maintained in the patients' health records.

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- 8.1.1. Electronic consent is an acceptable method of obtaining patient consent to access teleconsultation services and to seek treatment with the provision of the following:
- The requirements for manual consent are met;
  - The requirements for patient identification are met; and
  - The obtained consent can be audited.
- 8.2. Patient consent should be tailored to the type of telehealth service(s) provided (**Appendix 2**) and include but not be limited to the following:
- 8.2.1. Identification of the patient, which should include at least three identifiers: Patients Full Name, Date of Birth, Emirates ID Number, Health Record Number or Personal Contact Number.
- 8.2.2. The treating physician(s) must sign the consent form where a procedure or monitoring is being performed through telehealth technology (telesurgery, tele-ICU or home monitoring)
- 8.2.3. Security measures taken for the use telehealth technologies such as data encryption, password protection, user identification and authentication protocols.
- 8.2.4. Potential benefits, constraints and risks.
- 8.2.5. Consent for audio recording, monitoring of health status, data storage or data transfer to another healthcare provider for further assessment as required.

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- d. Patients shall be informed on the measure taken and contingency plan in case of technology or equipment failure.
- 8.2.6. Inform the patient his/her right while receiving telehealth service, including the right to stop or refuse treatment.
- 8.2.7. Explain to the patient their responsibility when receiving telehealth services.
- 8.2.8. Physicians shall ensure the recommended treatment or therapy is understood by the patient (or their legal guardian) at the receiving site, and should be read back to ensure accuracy to the physician.
- a. If the patient is present with their physician (receiving site) and is in communication with another physician (host site), then the physician at the receiving site shall confirm and document they have understood the advice being provided by the physician from the host site.
- 8.3. Consent does not absolve the physician from liability associated with medical malpractice.
- 8.4. Consent to access telehealth services may be signed electronically or in person prior to the initiation of telehealth services.
- 8.4.1. Consent may include paper or electronic format.
- 8.4.2. Consent for treatment must be documented at each encounter.
- 8.4.3. Information collected by the service and any active or passive tracking mechanisms utilized requires consent.
- 8.5. Consent is not required for:

- 8.5.1. Health insurance or any provider of health services in respect of the health services received by the patient for purposes of auditing, approving or verifying the financial benefits related to those services and for patient transfer or treatment.
- 8.5.2. Scientific and clinical research, provided the patient's identity is not disclosed and ethical approval and rules for scientific research are met and followed by DHA.
  - a. All research must be approved by DHA ethics committee.
- 8.5.3. Preventive and curative measures related to public health, or to maintain the health and safety of the patients or any other persons in contact with them.
- 8.5.4. The request of the competent judicial authorities.
- 8.5.5. The request of the DHA for the purposes of inspection, supervision and protection of public health.

## 9. STANDARD FIVE: HEALTH RECORD MANAGEMENT

- 9.1. Health facility management and physicians providing telehealth services must ensure complete documentation of information and communication in accordance with federal and local laws and regulations
- 9.2. The physician shall document in the patient's health records each telehealth encounter including but not limited to:
  - 9.2.1. The type of telehealth service and technologies used.

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- 9.2.2. The name and license number of the healthcare professional(s) involved in the encounter.
- 9.2.3. The date, time and location of the practicing care site, and receiving care site where a second physician is involved.
- 9.2.4. The requirements for Confidentiality and security and patient consent are met.
- 9.2.5. To ensure patient's ongoing care, the physician providing telehealth services shall make patient's information available to other healthcare professionals during handover, transfer and discharge.
- 9.2.6. Patient details and the patient's condition including signs and symptoms described by the patient and/or observed by the healthcare professional(s).
- 9.2.7. Diagnosis and recommended treatment or therapy provided by the Physician.
- 9.3. The health records should include if applicable, copies of all patient related electronic communications, including physician patient communication, prescriptions, laboratory and test results, evaluations and consultations, records of past care and instructions obtained or produced in connection with the utilization of telehealth technologies and alternative means of contacting the patient.
- 9.3.1. Policy and procedures shall be maintained by the health facility to ensure effective telehealth communication, which includes methodology for writing down or entering into electronic health records the complete advice and/or care recommended by healthcare professionals on both sides is consistent.

9.3.2. Confidential communication stored electronically shall not be accessible to unauthorized staff.

9.4. Accessibility and retention of health records must be consistent with applicable Federal and local laws and regulations.

9.4.1. Information, communication and technology data should be maintained for a minimum of twenty-five (25) years from the date of the last health encounter.

## **10. STANDARD SIX: PATIENT ASSESSMENT AND CARE MANAGEMENT**

10.1. Health facilities providing telehealth services shall ensure their services are effective, safe and of high quality to meet the needs of patient.

10.2. Clinical assessment of the patient shall only be undertaken by a DHA licensed physician to ensure current and ongoing needs of the patient are identified, documented and met.

10.2.1. Physicians shall determine and document the suitability for the use of telehealth services including but not limited to:

- a. Appointment scheduling.
- b. Consultation.
- c. Assessment.
- d. Care planning review.
- e. Investigation request.
- f. Patient Education.



- g. Counselling.
- h. Disease management.
- i. Prescription and issuance of refills.
- j. Medication management.
- k. Follow up.
- l. Patient referral.
- m. Sick leave.
- n. Remote patient monitoring.
- o. Surgery.

10.3. Patients should be able to seek follow up care or information from their physician or their physician designee or be offered continuity of care through an alternative service provider.

10.3.1. If an alternative service provider is recommended, the physician must ensure all necessary patient information and data is transferred through patient consent.

10.4. Telehealth providers must ensure policy and procedures are in place for emergency requests. The policy and procedures shall include:

- 10.4.1. A written protocol appropriate to the telehealth services being provided.
- a. The protocol should be tested on a regular basis.
  - b. The outcome of the testing and improvement plan should be documented.

10.4.2. Service contact number for emergency care and management.

10.4.3. Contact number for local emergency services.

## 11. STANDARD SEVEN: TELECONSULTATION (SYNCHRONOUS)

11.1. Teleconsultation services shall:

11.1.1. Ensure efficient access to the treating physician through an Interactive Voice Response (IVR) or web-based system.

11.1.2. Ensure patient identification, authentication, verification and consent.

11.1.3. Be provided by a DHA licensed physician with appropriate skills, competencies training and knowledge in relevant technologies and tools to provide consultation services.

a. The treating physician is responsible for patient assessment, treatment and follow-up.

(i) Physicians providing teleconsultation should not exceed their scope of practice, privileges or agree protocols for managing patient acuity; and

(ii) Complex or Emergency patients shall be referred for face consultation or emergency services.

b. Where necessary the patient shall be advised or referred on for further assessment and treatment.

c. Advice to seek emergency services or referral for emergency treatment shall not be delayed irrespective of the patient's insurance plan.

- 11.1.4. Be accessible to patients seeking telehealth services and provide appropriate healthcare on the basis of clinical need.
- a. Provisions shall be put in place for People of Determination.
- 11.1.5. Telehealth consultation should be offered in at least Arabic and English languages.
- a. The healthcare provider is encouraged to inform patients of all available languages offered for telehealth services.
- b. The healthcare provider is encouraged is to make use of interpretation services to assure patient groups that can benefit from telehealth services are not excluded.
- 11.1.6. Safeguard and preserve patient rights and treat patients with respect and dignity.
- 11.1.7. Assure professionalism and confidentiality during the provision of healthcare services to the patient.
- 11.1.8. Offer open, honest and courteous communication with patients, physicians, healthcare professionals and administrative staff.
- 11.1.9. Include a satisfaction assessment at the end of the teleconsultation.

## **12. STANDARD EIGHT: TELEDIAGNOSIS (SYNCHRONOUS AND ASYNCHRONOUS)**

- 12.1. The provision of Telediagnosis services shall adhere to the following:

12.1.1. Ensure equipment and tools, software and hardware are appropriate for

Telediagnosis in the related field including but not limited to:

- a. High definition medical camera.
- b. Digital Stethoscope (General Medical).
- c. Digital Derma scope (Dermatology).
- d. Digital Otoscope (ENT).
- e. Digital Iriscope (Eye).
- f. Ultrasound (Gynaecology, Sonology).
- g. ECG (Cardiology).
- h. X-Ray Scanner (Radiology).
- i. Digital Notepad (Prescription Writing).

12.1.2. Diagnostic equipment must be checked and calibrated with documentation on a regular basis.

12.1.3. Ensure professional training and competencies are assured prior to the provision of telediagnostic services.

12.1.4. Ensure high quality audio-visual equipment and software is used for continuous two-way communication.

- a. Processing of information and data should not be interrupted or be subject to delay affecting clinical assessment and diagnosis during live consultation.

12.1.5. Ensure patient identity is verified and consent is granted prior to diagnosis.

- 12.1.6. Ensure data is captured through routine workflow and the data collection system is automated and integrated into the telehealth system. As a minimum, the system should capture:
- Diagnostic images (high definition).
  - Vital signs.
  - Clinical prescriptions.
  - Laboratory reports.
  - Physician assessment report and recommendations with date and time.
- 12.1.7. Tlediagnosis may include consultation with multidisciplinary professionals where the lead physician seeks expert opinion from other professionals to determine the underlying causes or illness or disease.
- 12.1.8. Patients should be referred onto more specialized diagnostic testing where an anomaly is suspected or further diagnostic testing is required.
- 12.1.9. The healthcare provider must ensure secure and safe transmission and storage of relevant patient information in accordance with UAE federal and local Laws and regulations.

### **13. STANDARD NINE: TELEMONITORING (SYNCHRONOUS AND ASYNCHRONOUS)**

- 13.1. Telemonitoring/Patient Remote Monitoring (PRM) services include remote monitoring of patients through DHA approved telehealth platforms and MOHAP approved medical devices.

- 13.1.1. All PRM devices must be tested with the patient prior to their use.

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- 13.1.2. All PRM devices must be used for their intended purpose and maintained as per the manufacturer's instructions and specifications.
- 13.1.3. Faulty PRM devices must be reported to MOHAP.
- 13.2. The DHA licensed Physician is the responsible lead for the provision of PRM services.
- 13.2.1. PRM services should be accessible to eligible patients determined by the treating physician, after a face-to-face in person assessment in the healthcare facility, or through teleconsultation.
- a. The treating physician must consider clinical risks related to PRM.
- 13.3. PRM providers are responsible to procure and provide Information and Communication Technology (ICT) technologies that comply with TRA requirements, UAE ICT Law (2019) and DHA interoperability Standards.
- 13.3.1. Criteria for procurement of telemonitoring devices shall include but not be limited to:
- a. Safety (including alert features during abnormal/unexpected behaviour of the device)
- b. Quality (monitoring and diagnostic).
- c. Infection control.
- d. User compatibility and acceptability.
- e. Installation and portability.
- f. Means of communication and speed of monitoring.
- g. Accuracy and reliability.

- h. Durability.
- i. Conformity to International Standards.
- j. Robustness.
- k. Data security, data protection, patient and user authentication (including but not limited to the ability to identify and restrict/prevent hack attempts, during transmission and storage of data, authentication and authorization of access and privileges, ability to fix weaknesses (vulnerabilities) within device through controlled mechanism and ability of the device to prevent new threats to the connected/integrated environment).
- l. Reporting capability (for errors, investigation and analysis).
- m. Maintenance and support (testing features, network requirements, hardware and software maintenance, calibration and training).
- n. Interoperability and Compliance with UAE Laws.

13.3.2. Technology and medical equipment should be incorporated into healthcare provider clinical processes to optimise service integration, clinical decision making and clinical governance.

13.4. PRM provider should ensure Contracts and Service Level Agreements are in place where support services are being used.

13.5. The application/order to provide PRM must be supported with evidence and signed and dated by the treating physician and the patient.

- 13.6. Patients may be monitored on an adhoc or ongoing basis by a RN.
- 13.6.1. Frequency of monitoring shall be determined by the treating physician.
- 13.7. The RN may be nominated as the responsible person to provide an update on the patients' health status to the treating physician and document medical errors.
- 13.8. Telemonitoring should not be solely used to assess and determine the patient plan of care.
- 13.9. Physicians offering PRM shall:
- 13.9.1. Uphold standards of care to ensure patient safety.
- 13.9.2. Determine the clinical suitability of the patient for PRM services.
- 13.9.3. Follow up to date evidence based practice.
- 13.9.4. Ensure they receive sufficient training on the use of PRM devices in addition to action to be taken in case of service or data disruption.
- 13.9.5. Adopt a systematic approach for measuring clinical quality outcomes.
- 13.9.6. Ensure patients are made aware and consent for monitoring devices that collect information related to patient location or other non-health patient data.
- 13.9.7. Communicate, educate and orient the PRM patient (or their legal guardian) to enable them to optimize the benefits of PRM and how to manage emergency scenarios.
- a. Communication and education must include:
- (i) A patient feedback loop on the approach and level of communication.



(ii) Self-identification of a problem or error with the monitoring device.

(iii) Contact and support information and emergency contact details.

13.9.8. Patient's reserve the right to stop or refuse PRM services.

a. A discharge form must be documented at the end of the PRM period.

b. A Left Against Medical Advice (LAMA) form must be issued and signed by the patient (or their legal guardian) where discontinuity of PRM service is requested placing the patient at serious risk of deterioration or emergency service admission.

13.9.9. PRM devices should be frequently checked and assessed to ensure data frequency, accuracy and reliability is not compromised.

13.9.10. Sensors and equipment used should not cause skin irritation, lead to infections, pose a risk when swallowing or cause harm.

13.10. PRM services shall ensure the following:

13.10.1. There is a written policy for data collection, use and storage.

a. The policy must set out the protocol and frequency for data collection.

b. The policy must clarify the security and confidentiality measures that must be maintained when monitoring patients.

c. The policy must set out the response measures and time for data interruptions.

13.10.2. Maintenance and servicing of PRM equipment and devices should be undertaken and documented on a regular basis.

13.10.3. There is an authentication and synchronisation system for data collection

that includes the date and time when data is either sent or received.

- a. PRM data collection must be reliable, valid, accurate and timely.
- b. PRM data should form part of the electronic health record.
- c. The authentication and synchronisation system must entail an alert feature for:
  - (i) Service interruptions.
  - (ii) Data interruptions.
  - (iii) Data disconnectivity or loss.
  - (iv) Breaches in expected thresholds for patient monitoring and management.
  - (v) Provider initiated alerts.
  - (vi) Device initiated alerts.
  - (vii) Patient initiated alerts.

13.10.4. PRM services shall be available throughout the day and night (24/7).

13.10.5. Service continuity Service continuity measures must be in place to avoid service interruptions.

#### **14. STANDARD TEN: MOBILE HEALTH (MHEALTH)**

14.1. Telehealth providers shall ensure there is a written scope of services for use of MHealth applications and devices.

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- 14.2. Use of MHealth technology for provision telehealth services shall adhere to federal and local laws and regulations and the requirements set out in the Standard.
- 14.3. Mhealth must integrate with clinical decision support software algorithms that use patient-specific data for customized diagnoses or treatment recommendations.
- 14.4. Mhealth must assure transmission and synchronization capability of patient data for monitoring and documentation purposes.
- 14.4.1. Patients must provide consent for applications that include patient location tracking or any other tracking of personal non-health related data.
- 14.5. Telehealth providers that utilize telehealth technologies and applications for Mhealth devices should assure the following specifications are met:
- 14.5.1. Compliance with the requirements set out by NESAs, TRA and UAE ICT Law (2019) and MOHAP regulation for the use of medical devices.
- 14.5.2. Compliance with DHA requirements for mobile medical applications.
- a. Mobile medical applications shall be submitted for DHA review and approval.
- (i) Evidence of certification by other regulatory authorities should be submitted.
- 14.5.3. Compatibility with current mobile and web based platforms for the UAE.
- 14.5.4. Secure access for Mobile Wi-Fi, and Bluetooth connectivity.
- 14.5.5. Text functionality.
- 14.5.6. QR code scanning.

- 14.5.7. GPS functionality.
- 14.5.8. Motion sensor functionality.
- 14.5.9. Microphone functionality.
- 14.5.10. Voice Over Internet Protocol (VOIP) and Video conferencing capability.
- 14.5.11. Physician and patient identification and authentication.
- 14.5.12. Secure user interface with the treating physician.
- 14.5.13. Image capture functionality (high definition).
- 14.5.14. Interface with medical devices utilised for telehealth services.

## 15. STANDARD ELEVEN: TELEROBOTICS AND ROBOT ASSISTED SERVICES

### 15.1. Telesurgery (non-autonomous)

- 15.1.1. Telesurgery services shall be a consultant led and meet the licensure privileging, patient assessment, medical equipment, data protection, security and confidentiality requirements as per UAE federal and local laws and regulations.
  - a. Certified compliance for use of medical devices for telesurgery is required with FDA and Quality System Regulation or CE Marking and ISO 9001 and ISO 9002 Standards is required.
- 15.1.2. Telesurgery devices should entail a bilateral master-slave system (expert site and remote manipulator site) with direct control by the user.

- a. Master control unit (robot command station) shall be operated by the physician using hand and foot control while watching surgery on a high-quality 3D monitor.
- b. The master control unit may be located away from the operating room.
- c. A slave unit containing robotic arms should be present to operate on the patient.
- d. Support staff must be present at the patient site.

#### 15.1.3. High-speed connectivity or Local Area Network and information

management system must be in place with high definition visual and audio capability to enable time-bound and accurate intervention and exchange of information.

- a. The network must support:
  - (i) Real time control data.
  - (ii) Medical video stream.
  - (iii) High-level management data.
- b. Physicians must be trained on telesurgery to include competencies for force (haptic) feedback, time delay and depth perception management systems.
  - (i) Auxiliary control functions should be in place such as motion scaling, biomotion compensation and hand-tremor filtering.

- (ii) Internal and external joint position and forces sensors with a feedback loop must be in place for the physician (manipulator).
- c. Medical equipment and devices for the type of Telesurgery (general, thoracic, cardiac, gastrointestinal and colorectal, gynaecology/echography and ultrasonography, urological, neurosurgery, spinal, ophthalmology, and ear neck and throat) shall be used to include robot assisted arm (and arm cart).
  - (i) The mechanical design classification of robots and robotic systems must be suitable for the type of telesurgery being undertaken.
- d. Ancillary equipment including but not limited to monitors, keyboards, joysticks, and other input/output devices, 3D display screen and routers and data storage server should be checked prior to use.
- e. The environment set up should be tested and outcome of testing documented prior to provision of tele-surgery.
- f. There must be a risk management plan in place for all short and long distance surgeries to include delay in synchronisation of commands and data packets exchanged between the two sites and operating systems.

## 15.2. Telepresence and video conferencing (robot assisted services)

- 15.2.1. Telepresence and video conferencing shall be physician led and meet all the licensure requirements, privileging requirements, patient assessment

requirements and data protection, security and confidentiality requirements as per UAE Federal and local laws and regulations.

15.2.2. Requirements for telepresence and video conferencing include:

- a. Secure high-speed internet connectivity.
- b. Visual Display Panel.
- c. Desktop head and neck robots or drivable robots
- d. Pan, tilt and zoom cameras.
- e. Off-site medical professionals to move, look around, communicate, and participate from remote locations.
- f. Feedback loop sensory system to the operator.
- g. Mobile robot avatar for remote patient consultation.
- h. Maintenance and software upgrade schedule.
- i. Integrated document management system.

**16. STANDARD TWELVE: TELEPHARMACY**

16.1. DHA licensed health facilities seeking to provide telepharmacy services must meet the licensure, privileging, medical equipment, patient assessment, data protection, security and confidentiality requirements as per UAE federal and local laws and regulations.

16.1.1. The health facility shall authenticate, validate and encrypt patient information to avoid any intended or accidental leakage to any unauthorized access.

a. The telepharmacy provider shall assure users of data protection, security and website integrity and encryption through online security certificate.

(i) Protocols must be in place for online sales and transactions.

(ii) Patients must be made aware in advance of all transaction (and delivery) costs.

b. Telepharmacy services provided through direct service provision or through a third party entity shall have in place a mutual written agreement.

(i) Obligations of both parties and the pharmacist(s) who operate telepharmacy services must be agreed upon and documented.

(ii) Patients must be made aware where a third party is involved in the provision of telepharmacy services.

c. The pharmacist must verify and validate the drug order, its origin (prescribing physician) and the patient.

16.2. Where teleconsultation takes place, the consultation report shall be maintained by the treating physician.

16.2.1. All prescriptions should be documented in the patient health record.



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- 16.2.2. Controlled, Semi-Controlled and Narcotic medication cannot be prescribed or dispensed through telehealth services.
- 16.3. Telepharmacy service providers must include an electronic pharmacy system to manage transaction information and track movement of medications.
- 16.3.1. The system should be able to track and segregate recalled medicines and products.
- 16.4. The pharmacist in-charge shall maintain a separate record for telepharmacy medications and products dispensed to the patient.
- 16.4.1. Monthly inspection of records should be reviewed by the pharmacist in-charge.
- 16.5. The telepharmacy provider must ensure service continuity systems are in place to avoid service disruption and maintain data security.
- 16.6. The telepharmacy provider shall adhere to consumer rights and shall not restrict or limit patient choice to receive medications and products from a DHA licensed pharmacy.
- 16.7. Health Advertisements and Online Information
- 16.7.1. Information and services related to the telepharmacy and online services shall be displayed to the community in a friendly manner and shall comply with all federal and local laws and regulations related to health advertisement and social media.

16.7.2. Online information for telepharmacy services shall include but not be limited

to:

- a. The name of pharmacy as per the DHA license.
- b. The name of the pharmacy manager or pharmacist-in-charge.
- c. The name of the licensed pharmacists providing the services.
- d. The physical location of the pharmacy(s) and telephone number(s).
- e. Contact details in the event of an enquiry, technical difficulty or emergency.
- f. Disclaimer notice prohibiting prescriptions issued outside the Emirates.

## 16.8. Telepharmacy Service Management

16.8.1. Telepharmacy prescribing, ordering, transcribing and medication

management shall be guided by UAE federal and local laws and local regulations.

16.8.2. The Pharmacist shall be cautious and careful when dispensing medications in

particular:

- a. Frequent dispensing of medications that accumulate in the body.
- b. Drugs that are habit-forming.
- c. Unusual dosages.
- d. Contraindications.
- e. Medications prohibited for telehealth (Controlled, Semi-Controlled and Narcotic medication).

16.8.3. The pharmacist shall communicate with the prescribing physician in circumstances where frequency or type of drug is inaccurate or prohibited.

## 16.9. Electronic Pharmacy Services

16.9.1. Pharmacists providing Electronic Pharmacy Services are permitted to:

- a. Maintain prescription documentation and dispense prescriptions as per the UAE federal laws and DHA local regulations.
- b. Store medications and products in accordance with the manufacturer's specifications and requirements.
- c. Review and interpret doctor's prescriptions and flag up an anomalies or contraindications to the prescribing physician.
- d. Assess patients and their medication-related needs.
- e. Perform medication reconciliation and detect medications incompatibilities.
- f. Educate patient and/or carer in real-time regarding all relevant information related to the medications.
- g. Recommend medications where appropriate and ensure they are within the professional scope of practice and duties.
- h. Refer the patient to an existing pharmacy or health facility, if dispensing the medicine requires the patient to be physically present, or if their symptoms require special medical advice.

- i. Communicate with the doctor, who wrote the prescription, to clarify details or in order to alter the prescription.
- j. Authorize the removal of the medication from the system only after reviewing the patient profile for potential contraindications.
- k. Prepare and dispense the medication as per the physician orders, label the medicine container or box and provide instructions for its use.
  - (i) The physician and pharmacist name shall be listed on the medicine.
- l. Communicate with insurer companies for any required approvals.

#### 16.10. Approved Pharmacy Services.

16.10.1. Teleprescribing (physician only).

16.10.2. Teledispensing (online pharmacy).

16.10.3. Telephonic Patient Counselling and Medication Therapy Management (MTM).

16.10.4. Medication Vending Machines.

16.10.5. Pharmacy Delivery Services.

#### 16.11. Teleprescribing (physician only)

16.11.1. A DHA licensed physician employed in a DHA licensed health facility shall only offer Teleprescribing.

- 16.11.2. The treating physician who prescribes the medications should examine the patient electronically by using the appropriate telehealth equipment and devices that support the diagnostic needs for the case.
- 16.11.3. The treating physician is responsible to assess the patient and ensure no contraindication between the prescribed medication and the diagnosis of the case or between the prescribed medication and another medication that the patient is using.
- 16.11.4. The patient shall be made aware of both the benefits and side effects/complications of the prescribed medication.
- 16.11.5. The physician should discuss the treatment plan with the patient (or their legal guardian) and obtain consent.
- 16.11.6. Prescribing medications shall be in accordance with UAE MOHAP drug list to protect the patients from any counterfeit or substandard medications.
- 16.11.7. The physician shall not prescribe Narcotic, Controlled or Semi controlled medication through telehealth services.
- 16.11.8. Common drug classes and indications for Teleprescribing are provided in **Appendix 3.**
- 16.11.9. Issuance of sick leave is limited to a maximum of three (3) days per week as consecutive sick leave based on patient severity or as single sick leave(s) and as per DHA sick leave policy.

## 16.12. Teledispensing (online pharmacy)

### 16.12.1. Requirements for Teledispensing:

- a. The Teledispensing pharmacy must be licensed by DHA to practice pharmacy and apply for addition of Teledispensing.
- b. The pharmacy must have in place policies and procedures that ensure the integrity, legitimacy, and authenticity of the online prescription/drug order. Teledispensing pharmacy and associate telecommunication technology must:
  - (i) Obtain and maintain patient information necessary to facilitate review of drug utilization and counselling of patients pursuant to any applicable statutes.
  - (ii) Assure record keeping related to the patients served by the pharmacy.
  - (iii) Ensure proper purchasing, sale and dispensing of authorised medications and medical products by MOHAP.
  - (iv) Have the capability for the dispensing pharmacist to keep hold of the original copy of the prescription.
  - (v) Ensure patient confidentiality and protect patient-specific information when their information is transmitted using telehealth technology.

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- (vi) Compliance and maintenance of its technology system and controls to prevent unauthorized or unlawful access to confidential patient information and data.
- c. The pharmacist must conduct a prospective drug use review prior to medication dispensing.
- d. Prescriptions must be issued through an online prescription system that entails electronic transfer of the prescription to the pharmacist by the treating physician or the prescription being uploaded online. The online system must be able to:
- (i) Verify the DHA licensed physician and the prescription.
  - (ii) Verify the patient.
  - (iii) Verify the pharmacist handling the prescription.
- e. The prescription must be filled in accurately and comply with applicable UAE federal and local laws and regulations.
- (i) Price of medicines or medical products must confirm to the MOHAP/DHA Price list.
- f. The dispensing online pharmacy system must be able to prevent drug orders from being submitted and filled by multiple pharmacies within the same health facility name.
- (i) The pharmacist must not fill in any prescription which has been previously filled in by another pharmacist.

- g. The pharmacy shall communicate to the patient or prescribing physician any delay that might jeopardize or alter the drug therapy of the patient.
  - (i) The dispensing pharmacy will take responsibility to inform patients and the prescribing physician of any medication of medical device recalls.
- h. The pharmacy shall develop and enforce policies and procedures that require pharmacists to offer consultative services to patients.
- i. Delivery of medication and medical products to patient shall be undertaken through secure and traceable means.
  - (i) Delivery of medication and medical products should be transported using packaging or devices, which will ensure that they are maintained within appropriate standards pertaining to temperature, light and humidity as described in the manufacturer's specifications.
- j. Develop a system regarding reporting of adverse drug reactions and errors.

### 16.13. Patient Counselling and Medication Therapy Management (MTM)

- 16.13.1. MTM services should be documented in a consistent manner that is sufficient and appropriate for evaluating the patient's progress, billing purposes, and informing other healthcare providers about the care provided to the patient.



16.13.2. The pharmacist should monitor the patient's medication therapy on an ongoing basis and discuss any anomalies with the patient's prescribing physician.

- a. The prescribing physician may take responsibility to manage the patients medication therapy.

16.13.3. Patients with hearing, linguistic or cognitive problems seeking Counselling and MTM should be offered a face-to-face in person appointment or referred on for a physician face-to-face in person assessment.

16.13.4. Patient Counselling and MTM services include:

- b. A review of all medications prescribed by all prescribing physicians providing care to the patient, and any over-the-counter and herbal products the patient may be taking to identify and address medication problems.
- c. In-depth, medication related education, consultation, and advice provided to patients (or their legal guardian) to help assure proper use of medications.
- d. Collaboration with the patient, physician, and other healthcare providers to develop and achieve optimal goals of medication therapy.

16.13.5. Patients may access Teledispensing services for the following:

- a. Prescription Only Medicines (POM).
- b. Over The Counter medicines (OTC).

- c. Nutrition and Supplements.
- d. Herbal Medications.
- e. Skin and Hair Care products.
- f. Baby and Mother Care products.
- g. Personal Care, Foot Care and Eye Care.
- h. Beauty Supplements and Accessories.
- i. Medical Equipment.
- j. Rehabilitation Products.
- k. First Aid.
- l. Orthopedic Support Products.

#### 16.14. Medication Vending Machines (MVM)

16.14.1. Medication Vending Machines must be approved by the MOHAP and comply with the competent authority requirements for installation, use and maintenance of vending machines.

16.14.2. Pharmacy operating 24/7 may provide vending machines but this should not be used to substitute the licensure requirements for a full pharmacy service.

16.14.3. Vending services may be provided by the main pharmacy to offsite secure locations (e.g. airport, public transportation locations, malls, hospitality) subject to DHA discretion and may include the following:

- a. Over the Counter (OTC) and General Sale List products (GSL).
- b. Pharmacy Only Medicine.

c. Prescription Only Medicine.

16.14.4. The supply of “Pharmacy Only Medicine” and “Prescription Only Medicine”

through vending machines shall comply with the following:

- a. There are policies and procedures for vending machine monitoring, stocking and restocking, quality assurance, backup systems, and maintenance.
  - (i) Regular audits must be undertaken by the pharmacist in charge for vending machines that dispense Pharmacy only and Prescription Only Medicines.
  - (ii) Record keeping is maintained for all transactional information.
- b. The vending machine is in a secure location and affiliated with nearby a DHA licensed pharmacy.
- c. The medicines dispensed are under the responsibility of the in-charge pharmacist.
- d. The vending machine is sufficiently equipped and secured with appropriate storage conditions as per the manufacturer’s specification and requirements.
- e. There is a security camera to capture potential abuse of vending machines usage.
- f. The vending machine has the technology and capability to support telepharmacy services.

- g. All vending machines are registered and approved by DHA through their respective serial number.
- h. The pharmacist issues the patient a unique dispensing code/voucher to be used within 24 hours one time use for the vending machine.
- i. The vending machine can identify and authenticate the patient's identity and patient prescription.
  - (i) The vending machine must include repeat scan of the prescription before medication is dispensed.
  - (ii) The total amount of the product in each package does not exceed a total dosage of one (1) month with a maximum of two (2) refills.
- j. The medications are labelled and packaged in accordance with the conditions required by MOHAP, upon registration of the Therapeutic Products under the applicable UAE laws and regulations.
- k. The pharmacy name and contact details are prominently displayed on the vending machine to enable patients to directly contact the operator and pharmacy for any faults or discrepancies with the dispensed product.

#### 16.15. Pharmacy Delivery Services

16.15.1. Pharmacy delivery services through website or mobile applications for POM and OTC shall only be provided if the facility is licensed to provide Telepharmacy services.

- a. The DHA licensed Pharmacy may engage in third party agreements for pharmacy delivery.
  - (i) All third-party details for pharmacy delivery service must be provided and approved by DHA during the application process.
    - Details shall include photos of vehicles used;
    - The plate number of all vehicles for delivery; and
    - Copy of the agreement signed by the pharmacist in charge.
  - (ii) The responsibility of pharmacy delivery service will remain under the pharmacist in charge.
  - (iii) The DHA licensed Pharmacy is responsible to ensure all relevant UAE federal and local laws and regulations are met for delivery of medicines and medical products.
- b. The DHA licensed Pharmacy and pharmacists in charge shall take full responsibility for any error or adverse event resulting in inappropriate or unsafe delivery of medication or pharmaceutical product.

16.15.2.DHA Pharmacies offering pharmacy delivery services shall adhere to the following requirements:

- a. Undergo review of prescriptions and patient counselling to include but not be limited to provision of information on how to use medication safely, manage potential side effects, adverse drug reactions and when to seek medical attention.

- b. Medication or pharmaceutical product transportation is conducted in strict temperature, humidity and light controls as per the manufacturer's requirements.
- (i) The pharmacy shall provide a special container designed for medication requiring cold chain during transporting, and storing shall be within the recommended temperature range of +2 to +8 degrees Celsius (°C).
- Insulated Styrofoam Coolers: the wall thickness should be at least ¾ inch from all sides with a seal;
  - Refrigerant Gel Packs: refrigerated temperature should be between 0 to 15 degrees Celsius and should be reusable, recyclable, and non-toxic; and
  - Packaging should entail soft packaging (packing peanuts or bubble wrap) shock absorbent material in accordance to the requirements for the product delivered.
- c. The medicines and medical products including liquids shall be protected from any damage to quality or effectiveness during the delivery process.
- (i) Leak-proof bag and absorbent material should be used to deliver glass and plastic bottles safely.
- (ii) Liquid medicines or film-coated tablets shall be delivered to the patient intact and in good condition.

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- (iii) Medications must be sent in their original manufacturer packs and leaflets.
- (iv) The person in charge of the actual delivery should avoid any direct contact with the patient and their personal objects.
- (v) The pharmacist should be able to supply documentary evidence that the medication has not exceeded the acceptable limits temperature and humidity, as determined by the manufacturer's instructions.
- A temperature-humidity logbook should be signed by the pharmacist in-charge upon sending the products and the patient once received; and
  - The signed temperature-humidity logbook should be retained for at least 3 years as printed hard copies or retrievable electronic forms.
- d. The delivery of medicines and medical products must comply with patient privacy and confidentiality.
- (i) The physician prescription or order should be handed to the patient or their legal guardian.
- (ii) If he/she is unable to receive it, another person who is 18 years old and above can receive the medications subject to the customers approval (**Appendix 4**).

- e. There is a secure way for the pharmacist to confirm delivery of medicines and medical products to the patient through a verification process.
- f. The pharmacy should develop a mechanism for contacting patients regarding delays in delivering medication and medical products in addition to communicating any known recalls.
- g. The pharmacy must maintain accurate records of all deliveries to include delivery person, time, date, patient details and location.
- h. All deliveries shall include a paper or electronic receipt with the pharmacist details and their pharmacy.
- i. There is a satisfaction survey for pharmacy delivery services.
- j. There are contact details for the patients to raise a complaint about the delivery of medicines and medical products.
- k. Delivery of Narcotic, CD and SCD via telepharmacy is prohibited.

## **17. STANDARD THIRTEEN: KEY PERFORMANCE INDICATORS (KPIs)**

17.1. Key Performance Indicators shall be captured by Telehealth providers and reported to HRS each quarter. Submission will reflect the following domains:

17.1.1. Access.

17.1.2. Quality.



## 18. REFERENCES

1. A Brodin et al (2018). Design of automated medicine vending machine using mechatronics techniques. IOP Conf. Ser.: Mater. Sci. Eng. 402 01204.
2. American College of Clinical Pharmacy (2019). Leadership for Medication Management [Online]. Available on:  
<https://www.accp.com/docs/govt/advocacy/Leadership%20for%20Medication%20Management%20-%20MTM%20101.pdf> [Accessed 19 January, 2021].
3. American Pharmacists Association (2016). Telehealth and Pharmacy [Online]. Available on:  
<https://www.pharmacist.com/> [Accessed 19 January, 2021].
4. Avgousti et al (2016). Medical telerobotic systems: current status and future trends. *BioMedical Engineering*, 21016; 15: 96.
5. Barton Amy (2014). The regulation of mobile health applications. Published online 2012 May 8. *BMC Med.* 2012; 10: 46. doi: 10.1186/1741-7015-10-46.
6. British National Formulary (2019). Drugs [Online]. Available on:  
[https://www.medicinescomplete.com/#/browse/bnf/\\_145873037.\\_675647175.\\_869045147.\\_178233510](https://www.medicinescomplete.com/#/browse/bnf/_145873037._675647175._869045147._178233510) [Accessed 19 January, 2021].
7. Cabinet resolution No. (40) of 2019, Concerning the Executive Regulation of Federal Decree-Law No. (4) of 2016 on Medical Liability and Addendum Regulations and Conditions for Providing Telehealth Services.

8. Center for Connected Health Policy (2019). National Policy [Online]. Available on:  
<https://www.cchpca.org/telehealth-policy/national-policy> [Accessed 19 January, 2021].
9. Cortez Nathan, Cohen Glenn Cohen, and Kesselheim Aaron (2014). FDA Regulation of Mobile Health Technologies. Health Law, Ethics, and Human Rights. *The New England journal of medicine*. July 24, 2014; 2014; 371:372-379. DOI: 10.1056/NEJMhle14033844.
10. Digital Guardian (2019). What is HIPAA Compliance? HIPAA Requirements [Online]. Available on: <https://digitalguardian.com/blog/what-hipaa-compliance> [Accessed 20 January, 2021].
11. Dubai Health Authority (2011). Health Information Interoperability Standards [Online]. Available on:  
[https://www.dha.gov.ae/Documents/opendata/Health%20Information%20Interoperability%20Standards\\_Version1.0.pdf](https://www.dha.gov.ae/Documents/opendata/Health%20Information%20Interoperability%20Standards_Version1.0.pdf) [Accessed 20 January, 2021].
12. Dubai Health Authority (2017). Dubai Universal Design Code [Online]. Available on:  
<https://www.dha.gov.ae/Documents/HRD/RegulationsandStandards/Polocies/Dubai%20Universal%20Design%20Code%20Final%20Feb%202017.pdf> [Accessed 20 January, 2021].
13. Dubai Health Authority (2018). DHA Law No. 6 of 2018.
14. Federal Law No. (7) Of 1975, Concerning Practice of Human Medicine Profession.
15. Federal Law No. (3) Of 1987, The Penal Code.
16. Federal Law No. (1) Of 2006 and its corresponding Dubai Law No. (2) Of 2002 relating to Electronic Transactions and Commerce.

17. Federal Decree-Law No. (5) Of 2012, regarding Combating Cybercrimes.
18. Federal Law No. (6) Of 2018, Concerning the Establishment of Dubai Health Authority.
19. Federal Law No. (2) Of 2019, Concerning the use of ICT in health fields.
20. Furstenau D (2016). Open Digital Platforms in Health Care: Implementation and Scaling Strategies. *Thirty-Seventh International Conference on Information Systems*, 1, 1-12.  
Available on:  
[https://www.researchgate.net/publication/309203519\\_Open\\_Digital\\_Platforms\\_in\\_Health\\_Care\\_Implementation\\_and\\_Scaling\\_Strategies](https://www.researchgate.net/publication/309203519_Open_Digital_Platforms_in_Health_Care_Implementation_and_Scaling_Strategies) [Accessed 22 January, 2021].
21. Galden Louise (2018). Telephone Consultations. *BMJ* 2018; 360 doi:  
<https://doi.org/10.1136/bmj.k1047> (Published 29 March 2018).
22. Health Sciences Authority (2016). Singapore Guidance notes on supply of registered General Sale List (GSL) therapeutic products and other medicinal products via automatic vending machines[Online]. Available on:  
[https://www.hsa.gov.sg/content/dam/HSA/HPRG/Manufacturing\\_Importation\\_Distribution/Guidance%20documents%20for%20Industry/GUIDE-MQA-029.pdf](https://www.hsa.gov.sg/content/dam/HSA/HPRG/Manufacturing_Importation_Distribution/Guidance%20documents%20for%20Industry/GUIDE-MQA-029.pdf) [Accessed 22 January, 2021].
23. Holman Tayla (2019). mHealth [Online]. Available on:  
<https://searchhealthit.techtarget.com/definition/mHealth> [Accessed 22 January, 2021].
24. Niemeyer Günter, Preusche Carsten and Hirzinger Gerd (2014). Telerobotics [Online].  
Available on: [https://www.researchgate.net/publication/227154177\\_Telerobotics](https://www.researchgate.net/publication/227154177_Telerobotics)  
[Accessed 23 January, 2021].

25. Ministry of Health (2010). New Zealand, Wellington Ministry of Health Consultation on Proposed Amendments to Regulations under the Medicines Act 1981 [Online]. Available at: <http://www.moh.govt.nz/> [Accessed 23 January, 2021].
26. Priyanka V (2016). E-pharmacies Regulation in India: Bringing New Dimensions to Pharma Sector [Online]. *Pharmaceutical Regulatory Affairs*, 5, 1-7. Available on: <https://www.omicsonline.org/open-access/epharmacies-regulation-in-india-bringing-new-dimensions-to-pharmasector-2167-7689-1000175.pdf> [Accessed 23 January, 2021].
27. Telecommunications Regulatory Authority (2017). Consumer Protection Regulations. The Center for Telehealth and e-Health Law-Washington (2011). Internet Prescribing Summary Iowa, Minnesota, Nebraska, North Dakota, South Dakota and Wisconsin [Online]. Available on: [www.ctel.org](http://www.ctel.org) ([Accessed 23 January, 2021].
28. The Pharmaceutical Society of Ireland (2019). Guidelines on the Counselling and Medicine Therapy Review in the Supply of Prescribed Medicinal Products from a Retail Pharmacy Business [Online]. Available on: [https://www.thepsi.ie/Libraries/Folder\\_Pharmacy\\_Practice\\_Guidance/01\\_11\\_Guidelines\\_on\\_Counselling\\_and\\_Medicine\\_Therapy\\_Review\\_in\\_the\\_Supply\\_of\\_Prescribed\\_Medicinal\\_Products.sflb.ashx](https://www.thepsi.ie/Libraries/Folder_Pharmacy_Practice_Guidance/01_11_Guidelines_on_Counselling_and_Medicine_Therapy_Review_in_the_Supply_of_Prescribed_Medicinal_Products.sflb.ashx) [Accessed 23 January, 2021].
29. Ministerial Decision no. (51) of 2021 concerning the health data and information which may be stored or transferred outside the country.

- 
30. Ministry of Health British Columbia (2013). Telehealth Clinical Guidelines Province of BC Health Authorities [Online]. Available on:  
<http://www.health.gov.bc.ca/ehealth/telehealth.html> [Accessed 24 January, 2021].
31. National Electronic Security Authority (2014). Security standards and guidance.
32. UAE Constitution (1971) and its amendments to 2004.
33. UAE (2017). Unified Health Professional Qualification Requirements.
34. Viswanathan M et al (2015). Medication therapy management interventions in outpatient settings. *JAMA Intern Med.* 2015;175(1):76–87.
35. Wolffsohn James (2008). Eye Essentials: Ophthalmic Imaging. *Chapter 7 Teleophthalmology.* 2008, Pages 115-125.
36. World Health Organization (2016). Defining evaluation indicators for telemedicine as a tool for reducing health inequities. Pan American Health Organization [Online]. Available on:  
[iris.paho.org/xmlui/bitstream/handle/123456789/28562/PAHOKBR16006-eng.pdf?](http://iris.paho.org/xmlui/bitstream/handle/123456789/28562/PAHOKBR16006-eng.pdf?)  
[Accessed 23 January, 2021].
37. Yang Guang-Zhong et al (2017). Medical robotics: Regulatory, ethical, and legal considerations for increasing levels of autonomy. *Science Robotics* 15 Mar 2017: Vol. 2, Issue 4, eaam8638. DOI: 10.1126/scirobotics.aam8638.

## APPENDICES

### APPENDIX 1: REQUIREMENTS FOR PROFESSIONAL LICENSURE

No.	Scenario	DHA Licensed	Comply with other regulatory authority requirements
1.	A Physician within DHA Jurisdiction providing telehealth services to a patient in Dubai.	✓	Not Applicable
2.	A Physician within DHA Jurisdiction providing telehealth services to a patient outside the Emirate of Dubai.	✓	✓
3.	A Physician outside DHA Jurisdiction providing telehealth services to a patient in Dubai.	✓	✓
4.	A Physician outside DHA Jurisdiction providing telehealth services to a patient outside Dubai.	x	✓
5.	A Physician-to-Physician using telehealth within DHA Jurisdiction <i>in the same medical field</i> .	✓	Not Applicable
6.	A Physician (A) using telehealth within DHA Jurisdiction to consult with an expert physician (B) outside DHA Jurisdiction <i>in the same medical field</i> .	(A) ✓	(B) ✓

## APPENDIX 2: SAMPLE CONSENT FORM FOR TELECONSULTATION

Patient Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_ Emirates ID \_\_\_\_\_

Patient No: \_\_\_\_\_ Insurance No. (if applicable) \_\_\_\_\_

1- **Purpose:** To obtain your consent to participate in a teleconsultation in connection with the following service(s) and/or procedure(s)

- Patient Health Records
- Medical Images
- Live audio and video interaction
- Output data from medical devices and sound and video files

2- **Electronic systems:**

Electronic systems used will incorporate network and software security protocols to protect confidentiality of patient identification and imaging data and will include measures to safeguard the data and to ensure its integrity against intentional and unintentional corruption in accordance to UAE Laws and Regulations.

3- **Nature of Teleconsultation:** During the teleconsultation

- a. Details of your medical history, examinations, x-rays and tests may be discussed with other healthcare professionals with interactive videos, audio and telecommunication technology.
- b. A physical examination may need to take place.
- c. A non-medical technical person may be present in the telehealth studio to aid in the video transmission.
- d. Audio and/or photo recordings may be taken for accurate diagnosis, treatment and quality control.

4- **Medical Information and Records:** All existing federal laws and local regulations/policies/guidelines regarding access to medical information and copies of your Health Records apply to this teleconsultation. Dissemination of any patient identifiable images or information for this telehealth interaction to other entities will not take place without your consent.

5- **Confidentiality:** Responsible and appropriate efforts have been made to eliminate any confidentiality risks associated with the teleconsultation and all existing confidentiality protections under UAE federal laws and local regulation apply to information disclosed during this teleconsultation.

6- **Rights:** You may withhold or withdraw consent to teleconsultation at any time without affecting your right to future care or treatment.

7- **Disputes:** You agree that any disputes that arise from the teleconsultation will be resolved as per UAE laws and regulations and will be raised with the telehealth provider in the first instance.

8- **Expected Benefits:**

- a. Improves access to medical care by enabling a patient to remain in their home, office (or a remote site) while your DHA licensed physician obtains test results and consults with other DHA licensed physicians at distant/ other sites.

- b. More efficient medical evaluation and management.
- c. Access to expertise from distant specialist in the UAE or experts outside.

9- **Possible Risks:**

As with any medical procedures there are potential risks associated with the use of Telehealth, which may include, but not limited to the following:

- a. Information transmission may not be sufficient (e.g. poor resolution of images) to allow appropriate decision making by the consulted physician.
- b. Delays in medical evaluation and treatment could occur due to deficiencies or failure of equipment.
- c. In rare instances, security protocol could fail causing a breach of privacy of personal medical information.
- d. In rare cases, a lack of access to complete health records may result in adverse drug interactions, allergic reactions, or other judgement errors.

10- **Expected Benefits and Possible Risks:** You have been advised of all the risks, consequences and benefits of telehealth. Your treating physician has discussed with you the information provided in a language you can understand. You have had the opportunity to ask questions about the information presented in this form and about the teleconsultation. All your questions have been answered and you understand the written information provided above.

I **agree** to participate in the teleconsultation for the service(s)/procedure(s) mentioned above.

**Signature:** \_\_\_\_\_

If signed by someone other than the patient, indicate relationship: \_\_\_\_\_

I **refuse** to participate in the Teleconsultation for the service(s) / procedures(s) mentioned above.

**Signature:** \_\_\_\_\_

If signed by someone other than the patient, indicate relationship: \_\_\_\_\_

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Witness:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_



### APPENDIX 3: COMMON DRUG CLASSES AND INDICATIONS FOR TELEPRESCRIBING

Type of Telepharmacy Service	Indications	Drug Class	Recommended Tests
Teleprescribing	<b>Respiratory System:</b> Respiratory system infections	Antibiotics	<ul style="list-style-type: none"> <li>• Throat swab or culture.</li> <li>• Pneumonia – chest x-ray <b>(Mandatory)</b></li> </ul>
	Allergic conditions	Decongestants Antihistamine	
	Cough and congestion	Cough syrups and Lozenges	
	Anti-infective	Antiviral Medications	Influenza Antigen Test (A and B Test) <b>(Recommended)</b>
	Airway disease, obstructive	Beta-2 Agonists Long-acting beta agonists Leukotriene modifiers Inhaled and oral corticosteroids	Auscultation of chest <b>(Recommended)</b> Established diagnosis of disease documented by prior medical reports OR spirometry or PEFr improvement <b>(Recommended)</b> high dose corticosteroids prescriptions after physical evaluation <b>(Mandatory)</b>

	<p><b>Genito-urinary system:</b></p> <p>Urinary tract infections</p> <p>Bladder and urinary disorders (Urinary frequency, enuresis, and incontinence)</p> <p>Contraception</p> <p>Gynaecological conditions Dysmenorrhoea</p>	<p>Antibiotics</p> <p>Alkalisng drugs</p> <p>Antimuscarinics Alpha blockers</p> <p>Oral contraceptives</p> <p>Analgesics - Non-steroidal anti-inflammatory drugs (NSAID)</p>	<p>Urine dipstick nitrite test <b>(Recommended)</b></p> <p>urine culture <b>(Recommended for AB resistance)</b></p>
	<p><b>Skin:</b></p> <p>Infections of the skin</p> <p>Inflammatory skin conditions</p>	<p>Topical and Oral Antibiotics</p> <p>Topical and oral Steroids</p> <p>Antihistamines</p> <p>Barrier creams</p> <p>Wound care products</p> <p>Imidazole antifungals</p> <p>Anti-Viral</p>	<p>High resolution photograph and/or video examination of the skin condition <b>(Mandatory)</b></p> <p>Oral Thrush scrapings <b>(Recommended)</b></p> <p>Tinea –scrapings <b>(Recommended)</b></p>
	<p><b>Musculoskeletal system:</b></p> <p>Rheumatoid Arthritis</p> <p>Hyperuricaemia and gout</p>	<p>NSAID</p> <p>Anti-rheumatic drugs</p> <p>Antigout agents</p>	<p>Refills based on established diagnosis of disease by specialist.</p> <p>Azathioprine/methotrexate recent labs <b>(Mandatory)</b></p> <p>High resolution photograph and/or video examination of the skin condition in accordance with telemedicine guidelines. <b>(Mandatory)</b></p>

	<p><b>Nervous system:</b> Analgesics (pain)  Headache and Migraines</p>	<p>Anti-pyretic/ Pain Killers NSAID  Migraine Medication</p>	
	<p><b>Nutrition:</b> Vitamins Electrolytes and minerals</p>	<p>Vitamin deficiency</p>	<p>Laboratory tests for Iron and fat soluble vitamins <b>(Mandatory)</b></p>
	<p><b>Cardiovascular System:</b> Hypertension and Heart Failure  Hyperlipidaemia</p>	<p>Antihypertensive  Lipid modifying drugs</p>	<p>Recent blood pressure measurement result <b>(Recommended)</b>  Lipid-profile <b>(Mandatory)</b></p>
	<p><b>Endocrine system:</b> Diabetes mellitus  Thyroid Disorders  Hyperthyroidism Hypothyroidism</p>	<p>Blood glucose lowering drugs  Insulins  Antithyroid drugs Thyroid hormones</p>	<p>HbA1C and fasting glucose for monitoring and diagnosis <b>(Mandatory)</b>  Thyroid Hormones Test (Mandatory)</p>
	<p><b>Gastro-intestinal system:</b> Disorders of gastric acid and ulceration Gastro-oesophageal reflux disease</p>	<p>Proton pump Inhibitors H2-receptor antagonists  Antispasmodics laxatives Antidiarrhoeals</p>	<p>Ulcers and H.Pylori: H. Pylori testing <b>(Recommended)</b></p>

Teleconsultation counselling	Indications	Drug Class	Recommended Tests
	Smoking Cessation Program (Nicotine dependence)	Nicotine Replacement therapy (NRT) e.g. Nicotine patch Nicotinic receptor agonists e.g. Varenicline	Transdermal patch that releases nicotine into the body through the skin. It reduces both craving for and decreases the pleasurable effects of cigarettes and other tobacco products.
	Weight Management (Obesity)	Lipase inhibitors e.g. Orlistat	lipase inhibitor, thereby reducing caloric intake

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**APPENDIX 4: PHARMACY DELIVERY REQUIREMENTS FOR OVER THE COUNTER AND GENERAL ITEMS FOR OUT-PATIENT PHARMACIES.**

“Pharmacy Delivery Service” for OTC medicines and General products offered by out-patient pharmacies in Dubai should be done by highly-skilled-licensed-pharmacists in managing effective non-face-to-face communications with patients. This service should be done in a safe and secure atmosphere.


1. DHA licensed out-patient Pharmacy.
2. Pharmacies shall seek DHA approval for dispensing medications via delivery system.
3. “Pharmacy delivery” service shall be conducted by Pharmacy staff “pharmacy courier” or by third parties, and in both cases; it is under the responsibility of the pharmacist in-charge.
  - a. “Pharmacy delivery” service done by third parties requires approval from the DHA: the pharmacy has to mention the third party’s name in their application form along with photos of the third party’s vehicle. In addition to a copy of their contract and an undertaking letter signed by the pharmacist in-charge that he is fully responsible for the delivered medications and items in case of damage or lost.
4. A telephone order must be reduced to writing or electronic record including time of the call, product/s ordered, customer details, delivery information, and pharmacist details.
5. The products should be sent in their original manufacturer packs with their original leaflets.
6. Delivering the products to customers through temperature and humidity-controlled containers according to the manufacturer instructions:
  - a. Passive shipping systems:


- i. Insulated Styrofoam Coolers: the walls thickness should be at least  $\frac{3}{4}$  inch from all sides with a seal.
  - ii. Refrigerant Gel Packs: refrigerated temperature from 0 to 15 degrees Celsius. they are reusable, recyclable, and non-toxic.
  - iii. Cushioning, foam or Packing Peanuts: soft packaging materials to absorb shocks.
  - iv. Leak-proof bag and absorbent material to deliver glass bottles (example: cough syrups) safely.
7. Pharmacist should be able to supply documentary evidence that the pharmaceutical product has not exceeded the acceptable limits temperature and humidity, as determined by the manufacturer's instructions. A temperature-humidity logbook must be signed by the pharmacist in-charge upon sending the products and the patient once received.
8. The signed temperature-humidity logbook should be retained for at least 3 years as printed hard copies or retrievable electronic forms.



9. The order should be handled to the person who gave the order. If he/she are unable to receive it, another person who is 18 years old and above can receive the medications only after the customers approval.
10. It is prohibited to deliver Narcotic, Controlled and Semi-controlled medications via pharmacy delivery system.

Electronic Temperature Indicator (ETI).	
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**Suggested shipment labelling for Pharmacy:**


<b>1</b>	<b>Order details:</b> 
a	Order Number
b	Order Date
c	Time That The Order Was Sent From The Pharmacy
d	Time That The Order Was Received


<b>2</b>	<b>Suitable storage conditions</b> 	<b>Pharmacist signature</b>	<b>Customers signature</b>
a	Store Between 15-25°C <input type="checkbox"/>		
b	Store Between 2-8 °C <input type="checkbox"/>		
c	Store Below 2 °C <input type="checkbox"/>		
d	Store Below -18 °C In A Deep Freezer <input type="checkbox"/>		




<b>3</b>	<b>Details of the person ordering/receiving the product/s</b>  
a	Name
b	Address



c	Signature	

<b>4</b>	<b>Pharmacy Details</b> 	
a	Pharmacy Name As Per DHA	
b	Facility ID	
c	Pharmacy Contact Details (Phone Number, Email)	

<b>5</b>	<b>Pharmacist details</b> 	
a	Name	
b	License Number	
c	Signature	

<b>6</b>	<b>A warning message</b> 	
The product must not be used if the parcel does not match the order, if it is opened or damaged, or if there is any chance the product may be defective.		

<b>7</b>	<b>Total amount to pay</b> 	
a	Cash 	
b	Card 	

	Thank you for choosing our pharmacy.	
Kindly note that the delivered products cannot be returned or exchanged.		