Public Health – Medical Informatics

Telehealth, telemedicine, digital health support services Q17

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Educational Objectives

Telehealth and digital health support services
Interest of telehealth in professional practices

Ethical and deontological framework
A- Telehealth, digital health and digital health support services ... Recognize the definitions of telemedicine acts: teleconsultation, teleexpertise, medical tele-surveillance, medical tele-assistance.
A- Interest of telehealth in professional practices. Recognize the value of telehealth (telemedicine and tele-care) for access to care between primary care (first resort), secondary and tertiary (gradation of care).
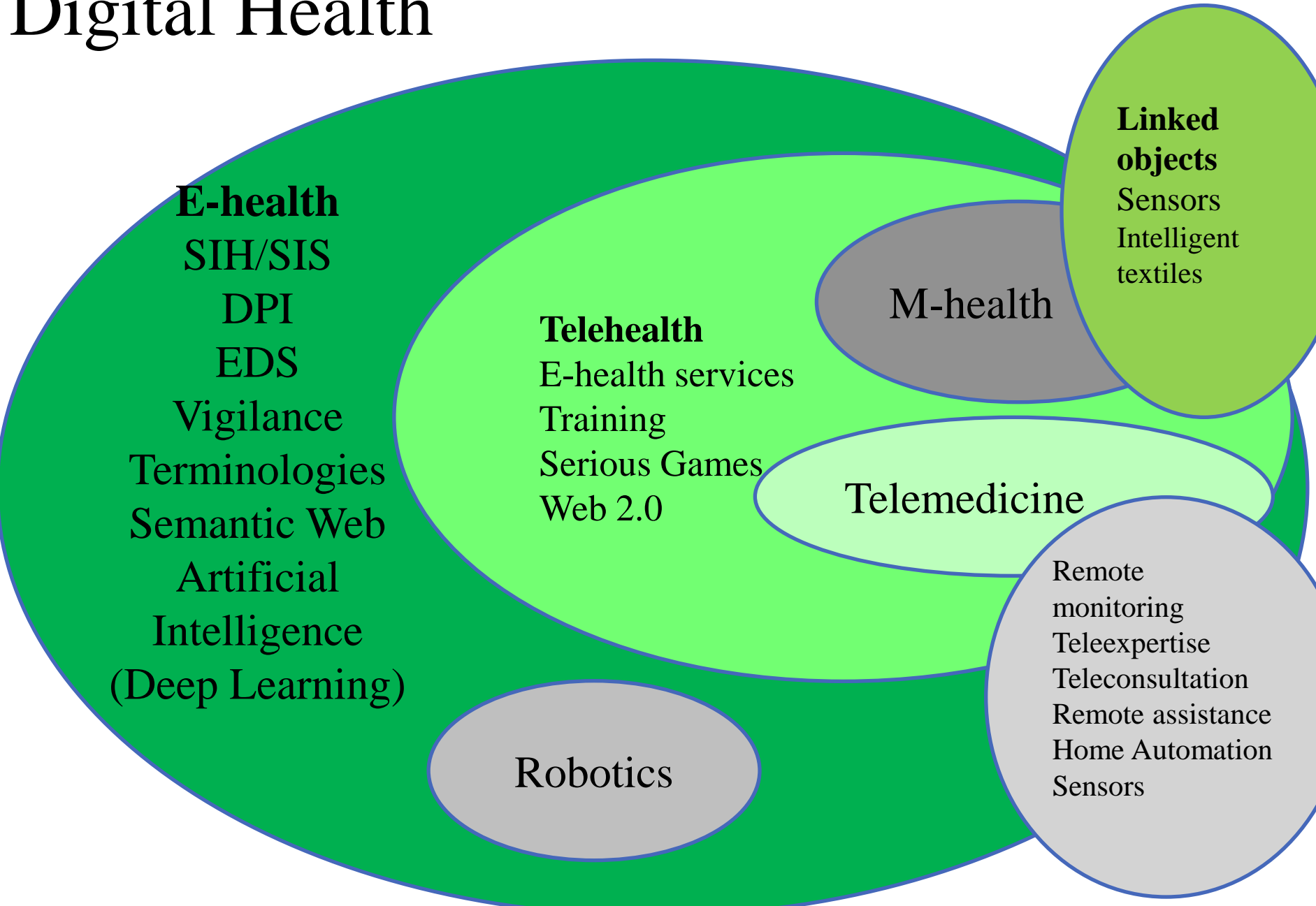
A- Ethical and deontological framework. Recognize the regulation of the practice of telemedicine (various acts of telemedicine), responsibilities of actors and telemedicine platforms.

A- Remote communication and multi-professional cooperation. To recognize how to communicate remotely, to teach his patient to communicate remotely. Inter-professional cooperation (including tele-care); Communication with users and caregivers; manage his working time between face-to-face and remotely and eligibility of the patient.

A- Implementation of a telemedicine project. To recognize, in order to be able to inform the patient, of the conditions for carrying out telemedicine acts; Knowing how to identify clinical situations for which telemedicine acts can help improve access, continuity and / or safety of care.

B- Evaluation methods. Describe the evaluation methods including benefit-risk, cost-effectiveness studies; minimization of costs; cost-utility; economic viability.

Digital Health

E-health
SIH/SIS
DPI
EDS
Vigilance
Terminologies
Semantic Web
Artificial
Intelligence
(Deep Learning)

Telehealth
E-health services
Training
Serious Games
Web 2.0

M-health

Linked objects
Sensors
Intelligent textiles

Telemedicine

Remote monitoring
Teleexpertise
Teleconsultation
Remote assistance
Home Automation
Sensors

Robotics

Pattern CNOM

Digital Health

- Digital health includes particularly:
  - Telemedicine and
  - Mobile health (mHealth),
- **Digital health (or e-health)** is the set of means, services and practices related to health, based on information and communication technologies (ICT)
- Digital health is defined by WHO :
  - e-health refers to the transfer of health and healthcare resources by electronic means. It includes three main fields:
    - the provision of health information to health professionals and patients via the internet or other means of telecommunication,
    - the use of information technologies and electronic commerce (e-commerce) to improve health systems, for example through education and training of health workers,
    - the application of e-commerce and e-business practices to the management of health systems.

Some Definitions (MeSH)

- Resulting from the MeSH thesaurus and integrated into the Digital Health thesaurus, developed by the EFMI (European Federation of Medical Informatics), integrated into HeTOP (URL: www.hetop.eu)

- Telehealth
  - Telesurgery
  - Telemedicine
    - Remote consultation
    - Tele-anatomopathology
      - virtual blade
    - Teleexpertise
    - Teleradiology
    - Telerehabilitation

Some Definitions (MeSH)

- <u>Telehealth</u> : remote care and prevention procedures involving a healthcare professional or the patient himself

- <u>Telesurgery</u>**:** Remote surgery, performed using a robot controlled by a computer system.

- <u>Telemedicine</u> : Health services delivered through remote telecommunications. This includes interactive, advisory and diagnostic services.

  - <u>remote consultation</u>: Remote medical consultation allows the patient to have a general practitioner or specialist consult remotely. This process is ideal for people who cannot move around, or when the practice is far away. Consultations are most often done for common infections (fever, cough, cold, etc.), digestive problems, skin conditions. But also during pregnancy, in case of anxiety, depression, smoking cessation or for follow-up.

  - <u>tele-anatomopathology</u> : Transmission and interpretation of tissue specimens via remote telecommunication, generally for the purpose of diagnosis or consultation but may also be used for continuing education.

Some Definitions (MeSH)

- <u>Teleexpertise :</u> Teleexpertise is a practice whereby a physician requests his expertise from another physician because of his training or particular skill. This new practice should further improve the quality of patient care and also allow professionals to save time and thus free up medical time. From 2019, in cases where they deem it necessary to obtain the opinion of a colleague, physicians will be able to use live telexpertises or by secure messaging and with the patient's consent (source Améli).

- <u>Teleradiology</u> : The electronic transmission of radiological images from one location to another for the purposes of interpretation and/or consultation. Users in different locations may simultaneously view images with greater access to secondary consultations and improved continuing education. (From American College of Radiology, ACR Standard for Teleradiology, 1994, p3)

- <u>Telerehabilitation</u>: Telerehabilitation (RT) is considered to be a relevant solution to counter the problem of accessibility to rehabilitation care and services. Despite this, it is still rarely incorporated into clinical practice.

Other Definition from the HAS

- **Telecare** is a form of **remote care practice** using information and communication technologies (ICT).

- It relates a patient with one or more pharmacists or medical auxiliaries in the exercise of their skills. Telecare activities are defined by order of the Minister of Health.

- No care situation can be excluded, a priori, from remote care, with the exception of care requiring:

  - direct face-to-face contact with the patient;
  - specific equipment, not available to the patient.

Other Definition from the HAS (2)

- Telecare is more relevant when the **patient-health professional (PS) relationship is well established**, nevertheless remote primary care can be relevant in certain situations (elderly people, isolated territory) and for certain professions because it facilitates access to care.

- The quality and safety issues of remote care are related to :
  - the evaluation of the relevance of telecare by the health professional;
  - **patient eligibility criteria** should be checked before performing a remote care act;
  - the quality of remote communication between the patient and the healthcare professional;
  - the protection and security of personal health data.

- The use of telecare is a **shared decision** between the patient and the professional who will perform the tele-care.

Relevance of telecare

- The professional must ensure the appropriateness of performing remote care based on:
    - **the patient's clinical situation;**
    - **the patient's ability to communicate remotely and to use technological tools;**
    - **physical, psychological, socio-professional and family factors ;**
    - the nature of the treatment: the remote care is not adapted to situations requiring direct face-to-face contact between the professional and the patient, or requiring specific equipment that is not available near the patient (e.g., massages, vaccinations, bandages, etc.);
    - **professional practices that must be adapted to remote care;**
    - the existence of specific requirements for premises, equipment or material;
    - the availability of the data necessary for the proper performance of the care and the subsequent management of the patient (traceability of telecare, need to share the telecare report, possibility to transmit a prescription, etc.).

Regulatory framework for telemedicine

From GCS NES digital health Normandy

- **Law "Hospital, Patients, Health, Territory", July 2009**
- Definition of telemedicine :
- « Art. L. 6316-1. -**Telemedicine is a form of remote medical practice using information and communication technologies**. It puts one or more healthcare professionals in contact with each other or with a patient, including a medical professional and, where appropriate, other professionals providing care to the patient. It makes it possible to establish a diagnosis, to ensure, for a patient at risk, a monitoring for preventive purposes or a post-treatment monitoring, to request a specialist opinion, to prepare a therapeutic decision, to prescribe products, to prescribe or to perform services or acts, or to monitor the condition of patients. »

Regulatory framework for telemedicine

- **Definition of telemedicine procedures: decree n°2010-1229 of October 19, 2010**

- Art. R. 6316-1. - Telemedicine defined in article L. 6316-1 **covers medical acts, performed remotely, by means of a device using information and communication technologies.**

1. The purpose of **teleconsultation** is to enable a medical professional to give a remote consultation to a patient. A health professional may be present with the patient and, if necessary, assist the medical professional during the teleconsultation. The psychologists mentioned in article 44 of the law n°85-772 of July 25, 1985 concerning various provisions of a social nature may also be present with the patient ;

2. **Telexpertise** aims to allow a medical professional to remotely request the opinion of one or more medical professionals because of their training or their particular skills, based on medical information related to the management of a patient ;

Regulatory framework for telemedicine

3. The purpose of **telemonitoring** is to support a medical professional to remotely interpret the data necessary for the medical monitoring of a patient and, if necessary, to make decisions relating to the treatment of this patient. The recording and transmission of data can be automated or accomplished by the patient himself or by a healthcare professional;

4. The purpose of **medical teleassistance** is to allow a medical professional to remotely assist another health professional during the performance of a procedure;

5. The **medical response** is provided within the framework of the medical regulations mentioned in article L. 6311-2 and in the third paragraph of article L. 6314-1.

Special case of teleconsultation

- 10 years of experiments
- **Compensation for the act of teleconsultation from 15/09/2018**, with video transmission requirement :
  - Patients are initially referred by their primary care physician when teleconsultation is not performed with the latter,
  - having benefited from at least one consultation with the teleconsulting doctor in person in the previous 12 months.
- Same rate as a face-to-face consultation

Successive steps of a teleconsultation

1. **Planning and preparation of the teleconsultation appointment**: an appointment is scheduled between the patient and the teleconsulting doctor, and can be the subject of preparation (reservation of medical devices, prior exchange and sharing of health data, etc.) ;

2. **Perform the teleconsultation:** an exchange by video transmission occurs between the teleconsulting doctor and the patient, whom a legal representative may accompany if he or she is under 16 years of age and/or by attending health professional;

3. **Conclusion of the teleconsultation:** at the end of the teleconsultation, the teleconsulting doctor can establish a prescription and a report of the procedure, which he or she will send to the patient, his or her attending physician, and the accompanying health professional, if applicable ;

4. **Payment and invoicing:** the patient may have to pay for the teleconsultation, and the teleconsulting doctor teletransmits the treatment sheet to the health insurance company. For the structures, the tele-transmission is done by FIDES ACE.

Teleconsultation and COVID-19

- **Numerous decrees and orders in 2020**

- Possibility of phone consultation (end of 07/11, with the end of the health emergency)

- Derogation from the contractual provisions if a Covid + or symptomatic patient

- 100% coverage by Health Insurance until the end of 2020

- Explosion of the demand for teleconsultation in urban medicine

  – Various industrial actors (Doctolib +++)

  – Teleconsultation has become a significant part of the healthcare offer (CNAM)

Special case of teleexpertise

Remuneration for the tele-expertise procedure as of 15/09/2018

Initially, and until the end of 2020, teleexpertise will be reserved for patients for whom access to care must be facilitated given their state of health or their geographical situation :

- patients with Long-Term Illness (LTI);

- patients with rare diseases as defined by the regulations ;

- patients residing in so-called "sub-dense" areas, as defined in article 1434-4 of the Public Health Code and in which conventional demographic aid applies;

- patients residing in accommodation establishments for dependent older people (Ehpad) or in medico-social structures ;

- detained persons.

- **Teleexpertise rates, 2 levels :**
  - *Required (requested) doctor: 12 € level 1, 20 € level 2*
  - *Requesting doctor: € 5 level 1, € 10 level 2*

Successive phases of a teleexpertise

1. **Request for teleexpertise:** during or following a consultation with a patient, the requesting doctor has a question and wishes to seek the advice of a specialist. He asks for and collects his patient's consent, and sends a request for teleexpertise to the required doctor ;

2. **Management of the teleexpertise request**: the teleexpertise request is managed by the requested (required) doctor, who can ask the requesting doctor for additional documents and data if necessary ;

3. **Processing and conclusion of the teleexpertise request**: the requested doctor processes the request, performs a diagnosis, transmits it to the requesting doctor and archives it in the patient's file and DMP (Shared Medical Record);

4. **Invoicing of the teleexpertise:** the requested doctor invoices the teleexpertise activity.

Particular case of remote monitoring

- **ETAPES Program (Telemedicine Experiments for the Improvement of Health Care Services)**

- 5 specifications concerning 5 pathologies: heart failure, renal failure, respiratory failure, diabetes and implantable cardiac prostheses

- The telesurveillance service must include on medical prescription, the combination of :
  - a remote medical monitoring;
  - providing a technical solution;
  - a therapeutic support service in accordance with the requirements described in the specifications. This can be achieved by a healthcare professional or by the supplier of the technical solution.

- Telemonitoring is funded by fixed rates for health professionals and solution providers involved.

Telecare

- New in 2020

- *Definition: Telecare is a form of remote care practice using information and communication technologies. It puts a patient in contact with a pharmacist or a medical assistant in the performance of their skills.*

- 11 Professions concerned: Audioprosthetists, Dieticians, Epithesists, Occupational therapists, Nurses, Medical electroradiology manipulators, Physiotherapists, Ocularists, Opticians-monitors, Orthopedists-orthotists, Speech therapists, Orthoprosthetists, Orthoptists, Pedicurists-podologists, Pharmacists, Podiatrists, Psychomotricians, Medical laboratory technicians

- Ex : remote monitoring of Covid + or symptomatic patients by nurses

**EXPLOITATION
DES DONNÉES**

HEALTH DATA HUB

Structure
INNOVATION
Lab e-santé

PLATEFORMES NUMÉRIQUES

**DES SERVICES
POUR LES CITOYENS**

**DES SERVICES
POUR LES
PROFESSIONNELS**

**BOUQUET
DE SERVICES (BS)**

**ESPACE
NUMÉRIQUE
SANTÉ
(ENS)**

SERVICES SOCLES

Outils de Coordination

MSSanté

DMP

e-Prescription

RÉFÉRENTIELS SOCLES

ÉTHIQUE	SÉCURITÉ	INTÉROPÉRABILITÉ

Boîte à outils

Cybersurveillance

ApCV

e-CPS

CGTS

France Connect

Pro Santé Connect

INS

RPPS+

FINESS+

ROR

SMT

Politique Générale de Sécurité SIS

Cadre d'Intéropérabilité S

For more information

Digital Health Agency (ANS)

https://esante.gouv.fr/projets-nationaux/telemedecine