Chapter 17
Standards in Telemedicine

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ABSTRACT

For many years, medical teams working on telemedicine have made a strong effort to define the telemedicine Body of Knowledge (BoK), and generate compatible standards that allow delivering telemedicine with adequate medical quality. The authors expect, after the European Commission statement on the Prague 2009 declaration, a new era for telemedicine. The essential barriers, which have already been encountered, include Literacy, Standard connectivity and Quality control. In the present chapter, the authors will address the item of Literacy regarding the type of standards in each of the topics of the Telemedicine Body of Knowledge.

INTRODUCTION

In 1998, we wrote, "the welfare expenses cannot be endlessly increased, whilst an efficient health provision system in the context of the information society, will mark a new trend to configure health care practice in the next century" (Ferrer-Roca & Sosa-Iudicissa, 1998).

In this century and in spite of ICT improvements, the provision of health at distance is not taken as a regular medicine delivery but a "special" service, many times included in the new technology units (UINT= Unit of informatics and new technology) of the hospitals.

If training and teaching schemes have to cope with society demands of *health quality (HQ)*, *health equity (HE)*, *efficient health delivery (HED)*, and *health security* (HS) medical training should devote a substantial part to e-health and telemedicine.

The main components of the Telemedicine-BoK as we defined in 1998 are listed in Table 1.

The health sector defines *telehealth* as an integrated term including any telematic application for health. It includes therefore any *medical informatics* and *health informatics*. The interna-

Table 1. Body of knowledge of telemedicine

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3	Main Telemedicine Applications
4	Basic Technical Knowledge
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8	Data Security and Privacy
9	Liability and Legal Aspects
10	Health Economics in Telemedicine
11	Technology Transfer and Social Aspects
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tional consultation carried out by the WHO in 1997, came out with a definition of "health telematics": as a composite term for health related activities, services and systems carried out over a distance by means of information and communications technologies, for the purpose of global health promotion, disease control and health care, as well as education, management and research for health. This also embraces the telematics in health research and health services management, as well as specific applications for "telemedicine" and "tele-education in health". In the Table 2, we include a list of telehealth applications. Under each term, we can include provision or confirmation of diagnosis, surveillance, epidemiology, management, clinical and research information, literature search and retrieval, health and wellness, health and medical educational contents.

BACKGROUND

Redefinitions for 2009

Most terms previously used are outdated and substituted nowadays by the common word of *e-health*, that include an endless list of "*e-*" words such as: e-prescription, e-assistance, e-delivery, e-mail, e-patient etc. In fact, not everyone understands the same using the term of e-health and therefore it is important to define their limits.

For the purpose of the paper we define:

- E-health as *health in Internet*, meaning access to anything related with health with or without quality control.
- E-health system as *e-government in healthcare*, meaning any citizen-health bodies transactions not only administrative but also for collection of results (laboratory, final reports, hospital release, e-prescription….)
- E-healthcare as *telemedicine*, meaning health delivery with the required quality standards and lack of risks for patient and users including confidentiality and security. Items such as knowledge discovery, personalized-health, etc… belong to this and it is under the responsibility of the medical doctors, medical colleges and health authorities to achieve the required quality of healthcare.

The potential scope of telemedicine is therefore enormous and can be summarized in four main aspects presented in Table 3.

ROBOTICS & COMPUTER ASSISTED MEDICINE

i.e. CAS / AEP[8]/ Intelligent devices

If you take into consideration the above scheme, many of the items treated in the field of telemedicine should be taken out. For that reason, it is important to define the limit of competences regarding e-administration for the healthcare items including electronic transactions or citizens' information and advertisement from the

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