Chapter 26

E–Health at Home: Legal, Privacy and Security Aspects

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ABSTRACT

This chapter describes the present situation of E-Health at home taking into account legal, privacy and security aspects. As a first step, some background and a general description of E-Health activities at home are presented. In order to have a general idea of the current status of this field, we analyze the general legal situation in terms of ICT for E-Health and several related issues on data mining privacy and information recovery aspects. The topics covered include the taxonomy for secondary uses of clinical data and a description of the role that controlled vocabularies play. Concerning the provision of E-Health at home, the chapter revises the current situation in the digital home evolution including topics on sensors and sanitary devices. Furthermore the challenge of digital identity at home and the differences between the domestic environment and the professional one are considered. Finally some ethical considerations under the “InfoEthics” concept and future lines of work are addressed.

INTRODUCTION

All over the world we are facing up to important problems regarding healthcare services. Due to the growth on the number of elderly and the changes in life styles the demand and cost of healthcare have increased. At the same time patients and families are asking for a better accessibility to healthcare outside hospitals, moving health provision into the
patient’s own homes. These challenges, along with a need for increased efficiency and quality-oriented care, have turned E-Health at home into one of the fastest growing areas of healthcare. E-Health can be seen on its own as a new concept of health provision. But health services are being offered more and more outside the traditional clinical environment due to a better quality of life for patients and the need to reduce costs.

In this context, most of the legal, privacy and security aspects when facing an E-Health at home service are inherited from the general telemedicine field. The objective of this chapter is to raise awareness of the importance of security and privacy aspects when transferring E-Health services to the personal environment. E-Health at home faces a double challenge and therefore a double change. The first one is the shift from direct face to face medicine to the distant provision of health services. That is the classic telemedicine physician to physician application like in radiology or teleconsultation. The second shift is a radical one, from a clinical and controlled scenario to the everyday patient environment.

Another important objective is to highlight the ethical aspects of E-Health at home such as informed consent and legitimate objectives. Most of the E-Health trials fail to become sustainable services because of organizational problems and, sometimes, also because of technical and economical ones. When transferring E-Health services to the personal environment the lack of an ethical and legal framework is not a new challenge but since patients are at home and do not have a direct access to their physician, there is a stronger need to preserve their privacy, consent and security rights. Every new initiative carried out in the field of E-Health at home should ideally take into account a well established ethical framework.

Finally, this chapter aims to stimulate the scientific literature on the legal, privacy and security issues as a means to promote a true shift in E-Health services at home and personal digital environment.

**BACKGROUND**

E-Health is an emerging field, which arises from the intersection of health informatics and communications. E-Health refers to the use of modern information and communication technologies to meet the needs of citizens, patients, healthcare professionals, healthcare providers, and policy makers (“Ministerial Declaration,” 2003). In a broader sense, the term includes not only technical development and new business models, but also a change in our way of thinking, and the compromise of enhancing health both locally and in the widest possible scope by means of information and communications technologies (Eysenbach, 2001). Regarding these considerations a huge amount of medical data is generated, stored, treated... and the medical traditional law must be adapted to this new situation.

E-Health services are being offered more and more outside the traditional clinical environment. As it is shown in Figure 1, the main reasons for this fact are a better quality of life, primarily for patients with a chronic condition, and the need to reduce costs when providing health services for the elderly. Very old people (aged over 80) are the fastest growing population group and this puts the health systems — the way they are designed today — under a strong pressure. Little by little this shift is placing patients’ homes as the centre of the E-Health service provision.

When we refer to E-Health at home we emphasize the fact that the health service delivery is provided outside the traditional clinical environment. But most of the health services which are offered to a patient at home can be, and in many real situations they are, mobilized outside the home by means of flexible E-Health applications not tied to specific hardware or communication infrastructures. When travelling, working or being in contact with the community, the E-Health enables homes to remain the centre of the Personal Digital Environment. As a consequence services should be designed to be flexible because they...
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