

ICT DEVELOPMENTS AND PATIENT EMPOWERMENT IN ITALY

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The evolution of information and communication technologies (ICT) in the healthcare sector has generated an innovative model of "electronic" health, the so-called e-health, based on the use of technologies to support healthcare and administrative processes, both in the management of relationships between healthcare organizations and patients, and in the governance of healthcare systems.

E-Health represents a paradigm of innovation, which involves several disciplines such as clinical informatics, medicine and business administration. In particular, the economic-business approach to e-health emphasizes the need to coherently combine (a) new technologies, (b) clinical and administrative processes and (c) skills and culture of people who operate in the healthcare system.

The key challenge is first and foremost the cultural one in which health professionals - in order to get profit from ICT - must adopt a new perspective, based on the patient's centrality and on the sharing of clinical information and its transparent management [1]. In this way the relationships between healthcare providers and patients are transformed. A particular emphasis is placed on the patient empowerment concept and on the role that ICT play in guaranteeing its fulfillment [2].

The analysis of the demand for health services expressed by citizens allows us to understand that it is now characterized by some new and distinctive elements, such as:

- the request for new direct access options to authoritative, personalized and immediately usable health information [3];
- the desire to acquire greater control over one's own health condition through direct management of personal data and the various diagnostic and therapeutic options available [4, 5, 6];
- the need of immediate, direct and informal relations with healthcare facilities and professionals [7, 8];
- the willingness to play a more active role in the care process also through the comparison of a personal experience with those of others [9, 10, 11].

These elements allow to define patient empowerment as: *“a process of personal development for which the patient/individual is given knowledge, skills and awareness that allow him/her (in whole or in part) to self-determine when dealing with its health. In this process, health professionals no longer play an authoritarian role but can become, according to the patient's want, facilitators who operate next to or with the patient”* [12].

Satisfying this need of empowerment requires a new strategic approach, which draws inspiration from a careful

analysis of the so-called "patient journey", reinterpreted in an experiential marketing logic.

The metaphor of the journey provides the opportunity to analyze, with the patient's eyes, all the assistance provided, identifying any critical issues and area of improvement.

The CERMES Bocconi Research Center shows that technology can effectively support the redesign of this journey, responding to the needs of patients and caregivers. In particular, attention goes to 4 main areas of technological application:

1. Social Media & Gamification;
2. Cognitive Computing;
3. Wearables and implantables;
4. Digital Touchpoints

1. Social Media & Gamification

Some intrinsic characteristics of the web make it ideal for the relationship between the health system and the citizen-patient, but above all, the web, in its "2.0" variations, offers a unique potential for empowering patients who increasingly becomes an active part in the generation of content and in the exchange of experiences, for example through platforms such as Facebook, Twitter, blogs, forums. Furthermore, the development of "gaming" in a serious context as in health allows to transmit messages in a simple and immediate way and to stimulate active and measurable behaviors, embracing emotional aspects and long lasting behaviours, fundamental in a treatment or care process in order to improve health.

2. Cognitive Computing

Today computers can provide timely answers to complex questions, thanks to the ability to analyze and correlate huge amounts of data. This marks a change of direction in research, with a high potential that is perceived by the patient who sees his data analyzed and interpreted according to the latest results of scientific research. The new data processing capabilities also support the development of the so-called precision medicine, seen as an innovative approach to increasingly targeted therapies allowing doctors to define specific treatments for each patient taking into account the individual's environmental and lifestyle differences. It is the result of sharing both from the scientific community and patients. This characteristic makes it completely consistent with the new needs expressed by patients.

3. Wearables, digestibles and implantables:

They represent an evolution of the health offer able to "bring health to the patient". Thanks to sensors and monitors it is possible to collect and store raw data and guarantee interaction by medical staff. They are tools perfectly answering to patients' needs able also to offer a big contribution to healthcare organizations needs.

4. Digital Touchpoints: App, Chatbot, Virtual Reality

Health apps available for smartphones and tablets, chatbots that allow to reach a patient with an immediate, personalized and secure communication and virtual reality to help patients to better live physical rehabilitation: these are technologies that provide the possibility, on one hand, to monitor parameters or to connect different devices/sensors, on the other hand to access a range of "administrative" services simplifying the relationship between patients and health facilities in the different phases of the patient journey. In fact, digital contact points allow the collection of a multitude of data and information that put the patient in an active position with respect to his or her health condition.

Considering today's increasingly curious, demanding and impatient citizen [13], the healthcare system must be able to adopt the technological tools available in a perspective that really puts the citizen-patient at the center of its activities in order to increase its empowerment.

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