Preface

Medicine beyond the boundaries: the possible role of e-health

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The provision of healthcare is one of the most important rights of citizens, all around the world. However, the delivery of healthcare services faces a number of obstacles that do not allow its full deployment in equitable and correct manner for all patients. One of the most important obstacles identified is the complexity in mobility of patients and healthcare providers. Chronic disease patients, the elderly, the disabled are often disadvantaged due to difficulties in flexible movement, thus are not able to obtain the appropriate level of healthcare provision and services.

A more subtle, yet traditional, obstacle is the failure of proper communication amongst healthcare professionals, including general practitioners, specialists, nurses, administrators; communication of healthcare professionals is in turn highly related to the exchange of data regarding patients. In fact, the same patient, for the same reason, may be treated by different entities: starting from the general practitioner, to the specialist, to the laboratory for analysis, to the nurse, etc. Every time a patient meets a healthcare professional, he/she should communicate his/her medical history - not always easy to describe nor always fully available. Furthermore, every judgement and action taken by one of those healthcare professionals should be also seamlessly communicated to others that are part of the care for that patient.

The availability of the Internet is the key factor for the diffusion of knowledge at any level, including the medical field. From this point of view, it can be seen as a neutral means, acting just as an additional tool for people interested in healthcare, either as professionals or as consumers. The Internet empowers us to know everything that is going around the world in the healthcare field, such as new therapies, specialised centres, scientific discoveries, etc. However, access to such information may be restrained by country boundaries and cultural differences: for example, simple geographical distances, licensing problems, difficulties in understanding the quality of the scientific news or of the service provided by a distant centre.

However, the Internet might be considered also as a specific medical tool, able to solve old problems in totally new ways, It can be even considered as a basis for giving new approaches to healthcare delivery. In the former sense, applications such as telemedicine -i.e. the practice of medicine at distance by means of instrumentation-, the electronic patient records, networking and related technologies, and internet-based clinical applications might be of help for overcoming the above mentioned boundaries.

The latter aspect of the Internet is extremely intriguing. Until now, new internet-based medical applications concentrated on specific, isolated technical solutions, but those solutions alone do now allow to fully leverage the technologies they are based upon, unless some form of integration occurs. Of course, it should be recognised that the Internet can also pose new problems, and thus new boundaries, while at the same time it attempts to create innovative solutions.

The "digital divide" between the developed and developing world is growing, and the Internet in Medicine might be either just a further push on this division, or hopefully a bridge between the two sides. What will be its role depends on human policies and choices. This digital divide exists even between computer-literate people and people unable to efficiently use new technologies. Among the latter are again people with more healthcare needs (e.g., the elderly) who find themselves more likely to be disadvantaged.

In the very recent years, a new term appeared in the field of Information Technology applied to Medicine: e-Health, for which a number of definitions and explanations have been proposed:

– John Mitchell, (1): *" (…) a new term needed to describe the combined use of electronic communication and information technology in the health sector... the use in the health sector of digital data - transmitted, stored and retrieved electronically - for clinical, educational and administrative purposes, both at the local site and at distance"*

– Again John Mitchell, at TELEMED99 (2): *"E-health can be considered to be the health industry's equivalent of e-commerce. E-health is therefore a term which describes the increasing use of electronic communication and information technology in the health sector"*

– Ace Allen, in his introduction to a Telemedicine Buyer Guide (3), said *that "eHealth is Internet-based and encompasses telemedicine/telecare/telehealth, but adds a world of efficiency-enhancing applications such as administration and practice management tools, ecommerce, and of course consumer-empowerment tools. The big change is that ehealth is not professional-centric, as has been the telemedicine world"*

– Ahmad risk's definition is short and concise (personal communication, June 2001): *"eHealth is the application of internet technologies to create, deliver or receive health information, products or services"*

– Gunther Eysenbach recently attempted to give a full definition (4): *"e-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology"*

From the above one can see the focus in e-Health, which is new in respect to the traditional medical informatics fields: integration among research fields centred on medicine (medical informatics, communication technologies, business, administration) (5), with special attention to consumers. To this focus we should pay our attention as a way for overcoming boundaries in healthcare provision. Thus we increase our possibilities to provide new means for communication to distant people, to different professionals, to disadvantaged patients, and to developing countries, while offering new powers to patients by means of self-driven education and prevention. However, while achieving the above we should ensure the standards and quality of the supplied information and services. Towards that effort, MEDNET 2001 and other related conferences, provide a forum where different healthcare professionals can meet and exchange ideas for the future of e-health and technological innovations for medical information.

References
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