Foreword

The book “E-health Technologies & Improving Patient Safety: Exploring Organizational Factors” is a consequence of the EU initiatives promoting healthy lifestyles, workforce, and life years together with social inclusion and engagement with all ICT application on the EU policies and programs such as i2020, the Ageing Well platform, the eHealth Action Plan, and the Green Paper COM2008:725.

Particularly, it is a consequence of the WHO advice to introduce 4P medicine (Predictive-Personalized-Preventive, and Participative medicine) and transversal units of care (TUs) on which to receive specialized, emergency, social, home-care, preventive, pediatric, and mental health care simultaneously. All of them require in place a 4T medicine, meaning the use of IT (Information Technology) tools to provide Telemedicine, Tele-control, Tele-management, and Telemetry at home or in the TUs. Up to now, this is managed by non-medical people whose knowledge on Quality of Care (QoC) requirements is not the main goal. By contrast QoC is a goal very well understood by medical people that never studied in their careers the 4T medicine. This introduces an outstanding “knowledge gap” in the implementation of 4T medicine with QoC.

Nowadays, consequences are being revealed. Discouragement in medical groups that do not know the way to solve: assistance problems, security, and management all together using HIT (Health Information Technology). Appearing has been such news as:

- “No Defense-Veterans Administration integrated electronic health record until 2017” with reasons such as iEHR will stand out as “the world’s largest electronic health record system” and a project of such scale and importance requires a deliberate approach so “we can get it right” (Brewin, 2012).
- The Department of Health in UK has confirmed plans to shut down HealthSpace, its personal record organizer system for patients, by March 2013, following a number of difficulties in its application (Department of Health, 2012).

In spite of the enormous effort we have been carrying in Canary Islands to put forward yearly multilingual courses for medical people in the 4T “Hot topics” such as iMedicine, Cloud-medicine, or Internet of the things medicine… among others, with experts all over the world, people still do not know how to handle the risks. They keep asking, for example, what will happen if we deploy, as it should be, specific medical body-area networks” (MBANs) with questions such as: Wireless spectrum expansion could mean more hospital security risks?

There is no way to continue like that. 4T medicine should be introduced in medical training, and eHealth 4.0 should be deployed. If you do not know what is eHealth 4.0, the article of Health 4.0 in the
Applications that fulfill 3 criteria of availability: a) Anytime connections: On the move, indoors, and outdoors, day & night b) anyplace connection: On the move, outdoors, indoors, at any PC c) Anything connection: At any PC, H2H (human to human), H2T (human to thing), and T2T (thing to thing).

Applications that include image enhancement & RFID readings to be used for: a) People→ by faces recognition and access to relevant information (home, work, medical, HER, PHR, medical schedule...), b) Object→ by use and by owner recognition, c) Food→ by principle content & by diet requirements, d) Medication→ by principle & by indication-contraindication.

Application that includes quality controlled Web 3.0 items such as: a) HCQ Health Care Quality: ISO 13485-ISO 2700 or security b) 3S: Social-Semantic-Services) Cloud accessing (SAAS, pCloud or personal cloud were the iPhone can be included).

Applications taking Web 4.0 items such as: a) KBL, or Knowledge base learning, including literature base learning (LBL), evidence based learning (EBL), trial based learning (TBL), image based learning (IBL), et cetera … b) QBE (Query by example), including query by image (QBI) et cetera … c) CoLD or Cloud of Link Data with Artificial intelligence.

On this effort the present book brings the audience to some of the problems and solutions to provide a 4T medicine with Quality of Care, and represents an outstanding achievement by the editors, who gathered so many relevant scientists to explain how to achieve that goal.

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O. Ferrer-Roca, MD, PhD, was born in Barcelona, and studied Medicine in the Central University of Barcelona from 1966-1972 with Honors. She got the PhD with “Cariotyping and tissue culture of tumors” in 1974 with Honors. She specialized in Pathology in 1974 being trained in Paris, Milwakee-USA, and London. Working as pathologist in the Clinic Hospital of Barcelona since 1972, she got the Assistant Professorship in Pathology in 1974 and the Chair of Pathology of the University of La Laguna in 1982. She commercialized a pathology image analysis system TEXCAN® specialized in visual textural analysis of the cell chromatin and DNA and immunohistochemical quantification. She founded the CATAI association in 1993, and has been the President since then. She got the UNESCO Chair of Telemedicine in 1999 for the University of La Laguna. Since 1996, she trains the students of Medicine and Computer Science on Telemedicine, creating the European Master of Telemedicine and Bioengineering applied to Telemedicine in 2004, at distance. She is editor of 12 books and 214 publications, and is the author of the first textbook of telemedicine, Handbook of Telemedicine (Amsterdam: IOS-Press, 1998), containing the Ontology of Telemedicine.
REFERENCES


