

## Guest Editorial Preface

# Special Issue of Patient Empowerment, Self-Management and Resilience to Combat Chronic Diseases

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Healthcare systems around the world are becoming increasingly interested in strengthening the role of patients in their own care. Empowerment occurs when the goal is to increase the capacity of patients to think critically and make autonomous, informed decisions. In that process, the role of healthcare providers, technology providers, citizens, and policy makers are of paramount importance. Patients have the right to make informed decision, but are physicians willing and able? Understanding factors that promote resilience may help people suffering chronic diseases to not only cope with unpredictable changes in health and abilities, but to thrive in spite of these changes. This should not be done at the expense of compromising patient security and safety, and this includes secondary use of data and appropriate management of information security issues related to biomedical research.

Given the ongoing shift towards new models of care, with greater patient rights and responsibilities, this special issue examines patient empowerment, self-management and resilience to support better quality and more sustainable health services globally. This is due to the importance of patient participation in healthcare decision-making, current trends in well-being, and the management of chronic diseases, the ageing of population as well as the shortage of health professionals. ICT has an important role to play by improving access to care and quality of care. Resilience can be an important factor in health promotion, and may influence the process of illness and outcome in health. How easy is power empowerment? How can it be achieved? What is the role of ICT? Why solutions that exist are not good to fit the general public? What is the roadmap towards integrated care? What are the patients' expectations? What is the role of technology? How smart specialization can assist towards empowering patients, strengthening self-management, predictive effective adaptation and bouncing back from difficult situations? What can actually be delivered? What is the road ahead and how soon can we see tangible results? These are only some of the few questions this issue has tried to provide answers.

The first article presents the terms most commonly used for defining patient involvement in health care. Focus is put on patient centered care, patient engagement and patient empowerment. It underlines the barriers identified in everyday clinical practice that may hinder its full potential for effective management of chronic conditions.

The second article explores whether physicians are willing and able to live up to their new role of encouraging patient empowerment. The authors explain the outcomes of effective vs. poor communication and it becomes evident that proper communication training can provide physicians with complex skills to empower and holistically care for their patients. This is especially relevant in

the case of hematological malignancies; whose very nature and management pose serious challenges for patients to understand and physicians to explain.

The third article introduces a novel technical infrastructure to support effectively and efficiently chronic, non-malignant pain management on top of already available ICT tools. The designed platform targets, amongst others, at improving the knowledge on the patient data, effectiveness and adherence to treatment, and providing effective communication channels between patients and healthcare professionals.

The fourth article explores the use of biometrics for authenticating a person's identity at the point of care, aiming towards achieving a high level of accuracy in patient identification. Biometric identification systems can greatly benefit healthcare due to the higher accuracy of identification procedures and the sensitivity of the medical data a user is attempting to use.

The fifth article presents three compartmental patient pharmacokinetics and pharmacodynamics models to evaluate the drug effect in organs or target parts of the body. The models estimate drug concentrations levels from different parts of the body, thus can be of interest in optimal drug delivery, empowering personalized medicine.

Patient empowerment benefits give incredible potential to all relevant stakeholder communities, including patients and their associations, caretakers, healthcare professionals, healthcare providers, policy makers, academia, public authorities, technology companies, etc.

Citizens expect to be in a position to access and share their own data, as well as to be in a position to provide feedback on quality of treatments. Technological advancements and better access of patients to digital tools are capable to support patient empowerment to combat chronic diseases, by allowing targeted and faster research, more secure access to health data and their exchange, and by enabling patients to interact with their doctors and caretakers more effectively.

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