EDITORIAL

Technological advancement as a driving factor of contemporary healthcare

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Health and Technology journal is charged with the mission to serve the global technological and medical community and thus focused on publishing a broad range of papers touching nearly every aspect of contemporary healthcare and its relations with societal factors and processes.

The current issue of Health and Technology presents a few review papers with special focus on improvement of existing quality, safety, analysis and decision-support techniques for diagnosis and treatment:

- early detection of clinical deterioration and timely escalation are critical for improving patient safety and preventing subsequent events in hospitals/acute care settings [1],
- explore the potential of existing digital solutions to improve the quality and safety of healthcare and analyze the emerging trend of digital medicine [2],
- effectiveness of personal health records in multiple sclerosis in better decision-making with regard to people's health and improvement of quality of care [3],
- new directions in precise diagnosis and therapy of Type 2 diabetes [4, 5],

followed by a set of papers on healthcare management and operational aspects:

- analysis of need and cost-effectiveness in the context of health care priority setting, including three normative interpretations, based on theories of distributive [6],
- collaborative personal data-driven service ecosystems as an integral part of development towards proactive service models in healthcare [7],

- wearable devices application in research environments for the estimation of energy expenditure and heart rate [8],
- electronic prescribing software in hospitals as a tool to measure the burden of medications, examine the efficacy of future interventions and optimization of drug prescribing in older adults [22].

Exiting the large-scale articles section, the editorial board presents selected subsets of papers with direct contribution in more specific branches of healthcare and technology – cardiology, neurology, assistance for disabled.

Cardiology is among the leaders in technological development in healthcare both in terms of newly developed techniques and implementation of assistive and automation equipment:

- user-centred approach for developing a tele-operated robot for remote echocardiography examinations, well suited for developing medical robots [9],
- feature selection study to improve and decrease the numbers of the features to facilitate heart disease diagnosis [10],
- construction of gender-specific regression models of aortic length using anthropometric and demographic parameters available in a routine clinical setting [11],
- an extension of wrist pulse analysis system for blood pressure monitoring [12],
- Heart rate of nursing home residents with advanced dementia and persistent vocalizations [23].

The neurological portion of articles in this issue covers the use of Electroencephalogram (EEG) for the detection of epileptic seizures:

- a novel pipeline for EEG-based epileptic seizure using Singular Spectrum Analysis (SSA), coupled with one dimensional Local Binary Patterns (1-D LBP). [13],
- detection of an epileptic seizure using EEG based on pattern recognition [14].

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Assistive technology and helping people with disabilities is presented by two papers

- a smart mass customization design tool: a case study of a portable ramp for wheelchair users [15],
- proposal of an obstacle detector with sound response for the visually impaired [16].

In addition to the original and review papers presented in the first section of this issue, Health and Technology editorial board is happy to present several more original articles as valuable addition to the previously published topical collections and special issues on Computer Based Medical Systems, Social Implications of Technologies and Privacy and Security of Medical Information:

- Medical and healthcare education address the need for integration of systematic technological standards into various virtual learning environments, which systematically support modern pedagogical trends and approaches. [17]
- Assessing the suitability of smart technology applications for e-health using a judgment-decomposition analytic hierarchy process approach [18]
- A novel classification via clustering algorithm for fibrosis assessment in liver biopsies to facilitate therapeutic efficacy. [19]
- The social network analysis on the behavioral intention to use cloud sphygmomanometer [20]
- Electronic medical record systems: decision support examination framework for individual, security and privacy concerns using multi-perspective analysis [21]

Technological advancement serves as a driving force in contemporary healthcare. The role of the physical and engineering sciences in medicine in this ongoing process is indisputable. Physical and engineering innovations and research have contributed to the development of number of advanced healthcare techniques, procedures and equipment.

Compliance with ethical standards

Conflict of interest   The authors declare that they have no competing of interests.

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