

IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS

J-BHI Special Issue on “Leveraging Smart Sensors in Healthcare 4.0”

The new era of connected healthcare services has led to the foundation of innovative technologies to enhance health services towards a healthier lifestyle. Also, the emergence of the IT sector into healthcare has brought tremendous health benefits to the patients and health professionals made this applicable and reliable. The rapid spread of Industrial Revolution 4.0 has admired the health industry, which triggered the evolution of Healthcare 4.0. The rising of enormous potential technologies provided additional support for the trend of Healthcare 4.0. The development of Biosensors using smart technologies improved the sustainability and effectiveness of healthcare services.

The successful functioning of Healthcare 4.0 depends on Information Technology, Cyber security systems, robotics, Artificial Intelligence, and computing besides biological sciences and health informatics. Cloud and Edge computing offer a comparatively secure and accurate platform for the predictive analysis of patient's health data. Moreover, this advanced healthcare service can correlate the patients' data with the datasets provided by qualified health professionals. This concept ultimately results in the patient-centred healthcare approaches which help in the betterment of patients. The widespread usage of numerous wearable biosensors and intelligent equipment provides efficient diagnosis and monitoring. Electronic health records are well maintained and efficient billing systems are implemented to prevent cost management issues with the available cutting-edge technologies. Hence, technological contributions for healthcare are noteworthy in supporting health professionals and patients and sensor-based monitoring and rehabilitation processes. Diagnosing diseases and their appropriate treatment within the stipulated period is a challenging part of healthcare services. This circumstance can be satisfied with the strategic application of Healthcare 4.0 with the effective use of these biosensors. From technological development, numerous challenges are identified to achieve Healthcare 4.0. Therefore, this special issue mainly identifies the challenges and research gaps in the existing healthcare services and aspires to invite health professionals and technologists together to resolve these implications. Moreover, propose efficacious sensing strategies for remote healthcare 4.0 applications.

Topics of interest include, but are not limited to:

1. Barriers exist in the development of sensor-based health devices
2. Neurosensory for continuous monitoring of brain activities
3. Rapid diagnostic sensors for instant results
4. IoT-enabled clinical sensors
5. Development of Biosensors for the assessment of Biophysical parameters
6. Implantable Sensors for Biomedical Applications
7. Home monitoring sensors for old age patients
8. Trends in Healthcare 4.0 and its implications from patients' view
9. Wearable Biosensors for monitoring CoVID-19 patients
10. Futuristic healthcare approaches using Connected technologies
11. Electronic Health Records (EHRs) for the prevention of medication error

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