Conference Abstract

Improving the clinical value of at home telehealth

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Abstract

The telemonitoring of vital signs from the home is an essential element of telehealth services for the management of patients with chronic conditions such as Congestive Heart Failure (CHF), chronic obstructive pulmonary disease (COPD), diabetes or poorly controlled hypertension.

Telehealth is now being deployed widely in both rural and urban settings and in this paper we discuss the contribution made by biomedical instrumentation, user interfaces and data anlytics to developing a clinical diagnostic quality longitudinal health record at home.

We pose the question as to whether Telehealth technologies currently available in the market are suitable for managing patients with complex chronic conditions and multiple co-morbidities at home. We identify technical challenges in the acquisition of high quality biometric signals from unsupervised patients at home, identify new technical solutions and user interfaces and propose new measurement modalities and signal processing techniques for increasing the quality and value of vital signs monitoring at home.

New research is also proposed to integrate primary care, hospital, personal genomic and telehealth electronic health records and apply predictive analytics and data mining for enhancing clinical decision support.

Keywords

monitoring systems; telehealth; data analytics

PowerPoint presentation

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