

Establishment of a cell-phone based e-health platform via cloud computing and internet of things in China

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More than 100 and 65 million people are suffering from chronic airway diseases and chronic heart diseases, respectively, in China. In order to reduce the mortality due to these diseases and resolve the difficulty of visiting a doctor in hospital, it is urgent to establish a cell-phone based e-health platform via cloud computing and internet of things in China. The platform is a combination of medical sensors, internet technique and existing dynamic network infrastructure, which helps to achieve remote interactions between hospitals, patients and healthcare devices.

In the past few years, we have developed early diagnosis and therapy management software for sleep, asthma and chronic obstructive pulmonary diseases, as well as a new generation of wireless sensor spirometer, and obtained six patents and three software copyrights, which allows much more sophisticated and continuous monitoring of patients.

We have established the Internet of Things Medical Center in Qingpu County, Shanghai. By connecting district hospitals and community hospitals, the medical center could carry out early diagnosis of sleep and management of asthma and chronic obstructive pulmonary disease, which helps keep patients from going into the hospital.

The total investment of the project is 10 million US dollars and focuses on four major research areas: (1) low-carbon, low-power, wearable human life parameter collection, analysis and wireless sensing technology; (2) remote medical diagnosis and management systems based on wireless networking; (3) massive cloud-based medical information analysis, modeling and application technology; (4) efficient and convenient medical center monitoring and managing network infrastructure.

Biography

Chunxue Bai has completed his Ph.D. from Shanghai Medical University in 1989 and postdoctoral studies from University of California, San Francisco. He is the Director of Shanghai Respiratory Research Institute, Professor and Chair of Department of Pulmonary Medicine, Zhongshan Hospital, Fudan University. Dr. Bai is a world-recognized scientist through his scientific contributions to understanding the pathogenesis of and therapies for ARDS, COPD and lung cancer. He has authored more than 400 papers, including 80 papers in SCI indexes. He is the Chief Editor for Translational Respiratory Medicine, and serves as the editorial board member for AJRCCM, AJRCMB, and Chest.

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