

A new individual patient centric demand forecasting method

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Abstract

A new method is proposed to forecast demand in the emergency department in a hospital. The new method is based on the philosophy of “know your patient”. The proposed method tracks arrival pattern of individual patient to hospital. The initial focus is on patients who are described as frequent visitors. The categories include but not limited to patients with type II diabetes, congestive heart failure, mental issues and substance abuse cases etc. This paper focusses on patients with Mental Problems and Substance Abuse issues. The paper outlines the method, shows empirical results based on a study group of patients and describes how the proposed method can be extended to other categories of patients. This is an ongoing research being carried out in consultation with the physicians from local hospitals to capture domain knowledge as well as to validate the method. We expect that availability of good Electronic Medical Records (EMR) will help us to develop an efficient demand forecasting tool. The paper also describes the benefits from the proposed method that are expected to lead to better planning for resources.