DATA ANALYTICS FOR HEALTH CARE

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PROBLEM STATEMENT

According to the World Health Organization (WHO), patient Length of Stay (LOS) in hospitals is an important performance measurement and monitoring indicator. Prolonged LOS in the Intensive Care Unit (ICU) may lead to consuming hospital resources, manpower, and equipment. Therefore, accurate prediction of patient LOS may aid the healthcare specialists to take medical decisions and allocate medical team and resources. As well, the patient and insurance companies may use this prediction to manage their budget. In this paper , a framework for predicting patient LOS.

Because of its effectiveness and equity, LOS is used to evaluate the efficiency of both the medical and the financial sections . ICU is considered one of the most resource-consuming departments in the medical sections. Most elderly ICU patients are exposed to aggressive medical procedures to keep them alive, and about 33% of them die after a prolonged LOS . Moreover, the time after discharging a prolonged LOS patient is critical as 55% of patients died within six months of being discharged . In addition, the average cost for patients who have a prolonged ICU LOS is seven times the cost of the patients who do not have a prolonged LOS . Therefore, there is a need for an accurate LOS prediction system to estimate patient LOS in the ICU in advance.

Analyzing that health data has allowed for a better understanding of how to respond and treat patients .We can collect all the data we want, but it doesn't do any good if we don't know what to do with that information. We need a centralized, systematic way of collecting, storing and analyzing data so we can use it to our advantage.