Implementation of Big Data in Health Information Systems: Sample Approaches in Saudi Hospital

Abstract

Big data concept provides opportunity to exchange patient’s medical information to the different healthcare providers. Health Information System (HIS) has created the ability to electronically store, maintain and move data across the world in a matter of seconds and has the potential to provide healthcare with tremendous increasing productivity and quality of services. Big data analytics is a growth area with the potential to provide useful insight in health information system. Big Data can unify all patient related data to get more option to view patient records to analyze and predict early disease detection. Big data supports and improve clinical practices, new drug development and health care financing process. Implementation of Health Information system (HIS) continues to expand infrastructure in Medical field due to enormous number of patient comes across to store medical data. In this paper we focus the Big data concept to increase and store patients details in Saudi public hospitals with maximum utilization. Most of the Saudi public and private hospitals Health information system locally connected and maintained by own hospital admin. There is no system implemented to share the patient health record, treatment details and medical prescription data to other hospital. The main problem in
the Saudi hospital, Health information is not centralized due to unstructured, semi structured data maintain by the Saudi hospital. Proper Health information system is able to offer correct and complete personal health and medical summary through the Big data methods. This paper introduces the Big Data concept and characteristics, health care data and some major issues of Big Data. Big Data methods and challenges in medical applications and health information system are also discussed in this study. This study provides a base model to increase the use of big data in health information system and can assist to understand the breadth of big data applications.

References


Index Terms

Computer Science  Information Sciences
Keywords

Big Data, Health information system, Medical record, Diagnosis, Centralized record, Hadoop, Saudi hospitals