Problem Statement

The application of big data in health care is a fast-growing field, with many discoveries and methodologies published in the last five years. Big data refers to datasets that are not only big but also high in variety and velocity, which makes them difficult to handle using traditional tools and techniques. Moreover, medical data is one of the most growing data, as it is obtained from Electronic Health Records (EHRs) or patients themselves. Due to the rapid growth of such medical data, we need to provide suitable tools and techniques in order to handle and extract value and knowledge from these datasets to improve the quality of patient care and reduces healthcare costs. Furthermore, such value can be provided using big data analytics, which is the application of advanced analytics techniques on big data. This paper presents an overview of big data content, sources, technologies, tools, and challenges in health care. It also intends to identify the strategies to overcome the challenges.

The main aim of this paper is to provide a deep analysis on the research field of healthcare data analytics. This paper is analysing the previous studies and works in this research area, as well as highlighting some of guidelines and gaps. This study has used seven popular databases and selected most relevant papers, in order to conduct this paper. The paper has listed some data analytics tools and

techniques that have been used to improve healthcare performance in many areas such as: medical operations, reports, decision making, and prediction and prevention system. Moreover, the systematic review has showed an interesting demographic of fields of publication, research approaches, as well as outlined some of the possible reasons and issues associated with healthcare data analytics, based on geographical distribution theme.