

Applying Lean Six Sigma in an Emergency Department, of a Private Hospital

Authors : Sarah Al-Lumai, Fatima Al-Attar, Nour Jamal, Badria Al-Dabbous, Manal Abdulla

Abstract : Today, many commonly used Industrial Engineering tools and techniques are being used in hospitals around the world for the goal of producing a more efficient and effective healthcare system. A common quality improvement methodology known as Lean Six-Sigma has been successful in manufacturing industries and recently in healthcare. The objective of our project is to use the Lean Six-Sigma methodology to reduce waiting time in the Emergency Department (ED), in a local private hospital. Furthermore, a comprehensive literature review was conducted to evaluate the success of Lean Six-Sigma in the ED. According to the study conducted by Ibn Sina Hospital, in Morocco, the most common problem that patients complain about is waiting time. To ensure patient satisfaction many hospitals such as North Shore University Hospital were able to reduce waiting time up to 37% by using Lean Six-Sigma. Other hospitals, such as John Hopkins's medical center used Lean Six-Sigma successfully to enhance the overall patient flow that ultimately decreased waiting time. Furthermore, it was found that capacity constraints, such as staff shortages and lack of beds were one of the main reasons behind long waiting time. With the use of Lean Six-Sigma and bed management, hospitals like Memorial Hermann Southwest Hospital were able to reduce patient delays. Moreover, in order to successfully implement Lean Six-Sigma in our project, two common methodologies were considered, DMAIC and DMADV. After the assessment of both methodologies, it was found that DMAIC was a more suitable approach to our project because it is more concerned with improving an already existing process. With many of its successes, Lean Six-Sigma has its limitation especially in healthcare; but limitations can be minimized if properly approached.

Keywords : lean six sigma, DMAIC, hospital, methodology

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020