

Utilizing six sigma to improve the processing time : a simulation study at an emergency departement / Nabeel Mandahawi, Mohammed Shurrab, Sameh Al-Shihabi, Abdallah A. Abdallah, Yousuf M. Alfarah

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Abstrak

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Wait time (WT) at the emergency department (ED) is a global concern, emerging evidence indicates that a wait for care delivery may result in adverse patient outcomes. Discrete-event simulation model has been developed to redesign the existing ED based upon several inputs (i.e. historical data, staff survey, and interviews). Furthermore, a newly developed simulation model was proposed, verified, and validated using triaged management system based upon Manchester triage system. The simulation study was performed as a part of design for six sigma project to create the proposed triage process. The proposed model resulted in reducing WT by 61% and length of stay (LOS) by 34%. In return, the sigma level was improved from 0,66 to 5,18 and from 0,58 to 3,09 for WT and LOS, respectively