Abstract

Systematic simulation as a practical tool in analyzing the performance of complex systems can enable the analysis of implementation processes related to the treatment of diseases and enable identification of bottlenecks and provide comparison of recovery scenarios without imposing costs of tests and errors to the system. The aim of the present study is to survey possible ways to optimize health care system, increase the productivity of staff and devices, provide better services to patients and reduce the costs of treatment. In this article, Dialysis Center of one the Bandar Abbas, Iran, hospitals was selected as a pilot and the process of referral and care was studied in this center. After verification of the conceptual model, the simulation model was developed using simulation software Arena 12. One of the problematic high traffic parts in this system is the referral of emergency patients outside the program of ward that it causes the queue in dialysis shifts. The computerized simulation model displays that if the patients refer to this center based on the correct scheduling, suitable beds and services for all patients can be allocated, and the productivity of whole system is optimal.

Keywords
Simulation Model, Health Care System, Dialysis Center, Queue improvement, Arena Software

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