The Determination of Patient Appointment Scheduling and Patients’ Examination Room Assignment Policies: A Case Study

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Abstract
This research is to study a patient examination operation problem, which contains the patient appointment scheduling policy and patients' examination room assignment policy. The objective of this study is to minimize the patient waiting time with constraints of the medical staff workload balance and utilization. This research uses a case image center to construct a simulation model of the patient ultrasound examination operations in order to examine the performance of different policies in two scenarios. Based on the numerical simulation, the results show that the optimal patient inter-arrival time in Scenario 1 is 18 minutes. In Scenario 2, the weighted cumulative examination point policy outperforms the cumulative examination point policy, the cumulative examination time policy, and random policy.

Keywords
patient scheduling, patient assignment, simulation, case study

Acknowledgements
This research is supported by the Ministry of Science and Technology, Taiwan, ROC. under contract no. MOST 107-2221-E-033-053-.

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