Accuracy Improvement of Outpatient Appointment System for Ophthalmology Clinic

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Abstract

The accuracy of outpatient appointment system is one of most important factors of the service quality of hospital. Nonetheless, due to the diversity and complicity of diseases as well as the uncertainty in diagnosis and treatment, the outpatient appointment scheduling is very difficult and hard to improve the accuracy. Although many scheduling methodologies were developed, the accuracy of appointment schedule still fell short of the patients' expectation. The purpose of this work is to improve the accuracy of outpatient appoint-ment system through the insertion of null outpatients. Therefore, the relationship between the behavior of null outpatients insertion and service time variation should be analyzed firstly. A general scheduling approach is applied to schedule the appointment. In the meanwhile, a simulation model is established to represent the op-erations of the clinic and the experimental design is applied for the accuracy analysis under different numbers of null customer and service variations. According to the results, the accuracy improvement of appointment system through assignment of null outpatients can be revealed. Based on these results, the scheduling of out-patient appointment system can be improved.

Keyword：Null outpatient assignment, Outpatient appointment system, Simulation model, Experiment design