Estimating the Patients Waiting Time Cost to an Outpatient Clinic Using Overflow Probabilities

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Abstract: No-shows to medical appointments impacts healthcare systems in financial and operational aspects. It has been identified that the construction of a stochastic cost model integrating patients' probabilities of no-show and cost information to determine the cost expected value of an appointment slot, could lead to the development of a procedure for the evaluation of different scheduling schemes in order to identify the ones that perform better in terms of the total no-show cost. Several costs identified as financial or social are considered in the model. The waiting time cost is a social cost that cannot be directly allocated. This research work presents a methodology to estimate the overflow probability from one appointment slot to a subsequent time slot in a schedule generated by overbooking. It will be used to estimate the expected value of the waiting time cost, crucial for the completeness of the stochastic cost model.

Keywords: No-Show, Waiting Time Cost, Overflow Probabilities