

98 學年度大四工工專題摘要

10	Outpatient Scheduling in Health Care
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摘 要	
題目的由來 Health care costs have been constantly increasing during the last years in many countries. Optimizing the efficiency of health care operations could be one approach to reduce the costs of health care. We investigate the effect of the health efficiency as a function of different lengths of the appointment slot for the outpatient schedules. 題目的描述 We study the relationship between total cost (measured by patients' waiting time, physicians' idle time and overtime) and the length of the appointment slot in a general/family practice environment. In the literature the length of the appointment slot is usually equal to the mean of the service time distribution. However, some rules consider others lengths and some others use different combinations of lengths. No method is found to be optimal in general. 解決的方法 An event graph modeling approach was used to model the environment. We first simulated the environment of a general/family clinic with different appointment slot length. The input variables of the simulation experiment include length of appointment slot, patients assigned in each slot and the coefficients which are the weights of patients waiting time, physicians' idle time and overtime. 研究的成果 We found the best performing combinations of rules and lengths of the appointment slot (among the ones we tested) with respect to different ratios of costs considered in our experiment. With the results, the managers would have an alternative when selecting an appointment system for their clinics base on their specific needs about costs.	