

Session 1: Applications of Analytics in Hospital Management 8:35am – 10:10 am

Topic: Factors Affecting Non-urgent Patient Visits to Emergency Departments: A Discrete Choice Experiment

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Time: 9:40am-10:10am

Abstract: Non-urgent patient visits have been one of the major factors behind rise in emergency department (ED) visits and ED crowding. This work investigates factors that influence non-urgent patients' choices between ED and General Practitioner (GP). A discrete choice experiment (DCE) survey was developed to elicit patients' preferences for ED and GP. Responses from 849 respondents recruited from a public hospital in Singapore were included in the study. The survey responses were used to develop patient choice models using latent class multinomial logistic regression. In addition to quantifying the influence of general ED/GP attributes on patients' preferences, these choice models also quantify the influence of a new GP-referral discount scheme that was introduced by a public hospital in Singapore to encourage non-urgent patients to first visit GPs instead of directly visiting the ED. Our findings suggest that waiting time, test facilities, out-of-pocket payment as well as GP-referral discount significantly influence patients' preferences for ED and GP. In addition, patients are heterogeneous in their preferences, particularly with respect to availability of test facilities and cost of care. We map heterogeneity of patients' preferences to patients' demographics and their perception of the criticality of their medical condition. We find that patients with more than 40 years age, part-time employment, shorter travel time to ED, and perception of their condition as "critical enough to go to ED directly" are more sensitive to test facilities and have an inherent preference for ED. The relative importance of factors quantified by the choice models suggest various countermeasures that can be beneficial for reducing non-urgent ED visits.