Measuring the Economic Benefit of e-Health by Propensity Score Matching

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Abstract

This paper aims to analyze the reduction of medical expenditures of outpatients by utilizing e-Health. In so doing, Nishi-aizu Town, Fukushima Prefecture, Japan, is taken as a case study. We select (i) users; and (ii) non-users of town's e-Health, and by comparing their medical expenditures, we examine how e-Health affects medical expenditures of the user group. In estimating the effect of e-Health by comparison of treatment and control groups, however, there arise two problems termed by "endogeneity" and "sample selection bias" caused by the difference in two groups. Our previous papers successfully solved the former, and this paper focuses on the latter. Since the result of questionnaire survey actually specifies some differences in their characteristics such as age, health consciousness, and their health condition, we utilize the propensity score matching (PSM) method to cope with sample selection problem, and attempt to calculate the unbiased estimator. This paper finds that medical expenditures of outpatient of users are smaller than those of non-users, and users' average annual expenditures per person is smaller than those of non-users by approximately 20,000 JPY (about US$240.00) per year.