

**Evaluation of the e-Health System in a Rural Town in Japan:
Focus on Days Spent for Treatment of Patients
with Lifestyle-related Diseases**

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Abstract

This paper aims to conduct the empirical analysis of the reasons why e-Health effects on treatment days of patients with lifestyle-related diseases. Two channels can be considered: one is to save the travel time because patients need not to go to hospitals and can see a doctor at their home, and the other is that using e-Health prevents from becoming worsen the symptoms and being hospitalized. Statistical analysis practiced based on panel data of medical expenditures of about 400 individuals from 2002 to 2006 in Nishi-aizu Town, Fukushima Prefecture, Japan. Nishi-aizu Town is one of the earliest cases in Japan to introduce e-Health successfully. Focus is placed on the patients who have lifestyle-related diseases because their condition is likely to be stable. Doctor can find signs of symptoms before the physical condition worsening by e-Health. Data of outpatient days is used to analyze the saving travel time effect, and data of inpatient days is used to analyze the prevent effect. Three estimations were conducted, namely, panel analysis, panel IV (instrumental variable) and system GMM (Generalized Method of Moments). Our estimation results of system GMM show that e-Health usage can reduce both days of outpatient and inpatient. The conclusion of this paper is that the saving travel time effect and the prevent effect reduces 2.0, 8.1 days per year for treatment respectively.

Keywords: e-Health, System GMM, lifestyle-related diseases, treatment days, travel cost effect, prevent effect