Understanding Heterogeneous Impact of Medicaid Expansion Using Generalized Random Forest

Samin Jalali

Abstract

This study is an attempt to investigate the effects of access to the Medicaid expansion program on mental health, welfare, financial strain, and health care need and utilization. Since inception, the optional Medicaid program through the Affordable Care Act, has become subject of debate among various stakeholders. Oregon’s 2008 lottery-allocated access to Medicaid for low-income adults provided a randomized trial opportunity to study impacts of public insurance on self-reported health, health care use, and financial strain on low income adults. There has not been consensus on various aspects of Medicaid impact among researchers. These credible researches studied the average treatment effect, missing the heterogeneity of effects on subpopulations with different characteristics. Using Generalized Random Forest, a non-parametric causal Machine Learning method, we estimate the causal heterogeneous effect of Medicaid on self-reported happiness, out-of-pocket medical costs, depression, the likelihood of getting all needed medical care, and the emergency room visits. We show that there is heterogeneity in Medicaid effects with respect to observable variables, particularly individual’s age and number of weekly working hours. We find that Medicaid coverage causes older subpopulation who work more than 30 hours per week to be happier, incur less out-of-pocket medical costs, be less depressed, and use emergency rooms less. Additionally, we show that Medicaid is more successful in decreasing the out-of-pocket medical costs for people who live in rural areas compared to those who live in urban, Metropolitan Statistical Areas (MSA). Policy makers can design more efficient policies regarding the public insurance by considering the heterogeneous effects as discussed in this study.