

Effects of Travel Time on Healthcare Utilization:

Evidence from Norway using spatial data^{*}

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Very preliminary and incomplete. Any comments are welcome.

Abstract

Background:

Empirical findings support that patients living far away utilize healthcare services less than those living close-by. But there are few studies trying to elicit the causal effect of travel time on utilization. Various types of centralization processes of healthcare services are found in most of the Nordic countries. Increased travel time is one plausible drawback of such centralization, raising the concern that patients seek healthcare too little and too late, and thus a risk of excessive costs and possibly deteriorated health.

Objective:

Our aim is to estimate the causal effect of travel time on general practitioner (GP) utilization in the Nordic context with uniform and publicly funded health care services. Using socioeconomic- and demographic characteristics, we evaluate whether travel time affect utilization different over patient groups. Such knowledge may guide in balancing the monetary costs of decentralization and health related costs from low utilization.

Data and methods:

Individual level information of the entire Norwegian population over many years is combined from the GP registry, the reimbursement register of the insurance scheme, and administrative registers provided by Statistics Norway. Using a geographic information system (GIS), we calculate the exact travel time from each inhabitant's home to the office of its assigned GP. Quantitative estimation methods include OLS and fixed effect models at various combinations of individuals' address and GP locations.

Preliminary results:

First, we confirm earlier findings of an inverse relationship between travel times and utilization. Second, we estimate the causal effect of travel time on utilization, relying on plausibly exogenous variation in the travel time from improvements in roads over time. For the general population, we estimate precise zero-effects of travel time on utilization.

Conclusion:

Preliminary conclusion suggest that further centralization of GP services would have limited impacts on utilization.

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