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SPATIAL HETEROGENEITY IN THE EFFECTS OF QUALITY ON ELDERLY'S MEDICARE SPENDING

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Research has been limited on the effect of quality on the elderly despite their rapidly increasing share in medical spending. We exploited the spatial variation of medical spending and use in the US, employing a spatial regression design. A focus of the study was whether and to what extent medical spending varies by service type. We addressed the question by using Medicare data that contain accurate and detailed spending information for nearly all medical services provided.

Methods: Using Medicare regional data, we first examine the impact of the heterogeneous effects of the quality of care on elderly's Medicare spending at the aggregate level. We then delve into details and examine whether the quality effects are heterogeneous by service type. We use advances in Geographically Weighted Regression (GWR) to estimate what can be thought of as spatially moving clusters of structural covariations. We also employ spatial regression models that likewise relax the assumption of spatial independence.

Findings: We find that at the aggregate level poor quality of the healthcare increases Medicare spending (SMS) and thus costs per beneficiary. Second, quality effects are heterogeneous, and their impact varies both spatially and by the type of medical service. In particular, Clinics and Ambulatory Surgical Centers' services stand out for their high positive effect of hospital readmissions, a proxy for poor quality of continuity of care. We also find that poor quality of continuity of care decreases the use of Outpatients Dialysis Facilities, Physician Procedures, and Tests. Lower quality in terms of primary care access decreases the spending in Ambulatory Surgical Centers, Evaluation and Management Services, Physician procedures, Imaging, and Drugs. Third, we find that the effect of health risk status on medical spending differs by treatment type.

Conclusions: Reducing geographic variation in healthcare spending would not necessarily improve the overall quality of medical practice. Reducing payments to high-spending areas and increasing payments to low-spending areas reduces spending variation but the results on the quality of care will be ambiguous, since we found the quality effects to be heterogeneous both spatially and by services.

Biography

Felipa de Mello-Sampayo was the coordinator of the project PTDC/EGE-ECO/104157/2008, entitled "Health and Economic Growth". Under this project, she developed and published two key papers related to a dynamic stochastic model for the optimal timing of a treatment switch, and applied to problems in medical decision taking Gastrointestinal Stromal Tumor (GIST) and HIV. The first, entitled "The Timing and Probability of Treatment Switch under Cost Uncertainty: An Application to Patients with Gastrointestinal Stromal Tumor", Value in Health, 2014, Vol. 17, and the second entitled "HIV patients' decision of switching to second-line antiretroviral therapy in India, Aids Care, 2015.

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