

Does prescriptive appropriateness reduce health expenditure? Main effects and some unintended outcomes

Claudio Lucifora¹, Antonio Russo², and Daria Vigani^{*3}

¹ATS Milano, Epidemiology Unit

²Università Cattolica di Milano and IZA

³Università Cattolica di Milano

Topic: Evaluation of Health policies, Administrative data for health economic research

Presentation format: oral

- **Background:** In Italy, appropriateness of health care is gaining increasing interest among both providers and policy-makers, as a preeminent issue in the lively health care debate is that a substantial proportion of provided care is deemed to be inappropriate. For this reason, on December 9, 2015 the Italian Ministry of Health presented the “appropriateness” decree, that established appropriateness requirements and prescriptive constraints on a selected number of health services. In particular, the decree restrained the ability of General Practitioners (GPs) to prescribe 203 diagnostic tests unless the patients meet some predetermined criteria, thus manipulating their discretionary power as gatekeepers for secondary care. Although exemption rules based on income and chronic disease status were defined to avoid a deterrent effect on vulnerable subjects, this action was preceded and followed by an active dispute, mainly centered on possible adverse effects on health outcomes, that culminated with the successive repealing of the decree in mid-July 2016.
- **Objectives:** The aim of the paper is to exploit the introduction of the “appropriateness” decree (and successive repealing) within a difference-in-difference framework to evaluate the effectiveness of prescriptive constraints in reducing health care utilization and spending. At the same time, we explore whether the introduction of prescriptive appropriateness requirements had some unintended consequences on the demand of medical services of vulnerable groups or on patients’ resort to emergency care and health outcomes. Moreover, as the decree was designed to tighten the gatekeeper role of family doctors, by limiting

*Corresponding author: Department of Economics and Finance, Università Cattolica, Largo Gemelli, 1 (20123) Milan.

e-mail: daria.vigani@unicatt.it - phone:3472305093

their discretionary power over prescriptive behavior, we are further interested in analyzing whether GPs' response to the introduction of appropriateness requirements has been heterogeneous according with several individual characteristics.

- **Methodology:** Drawing on administrative health archives of the largest Italian Local Health Authority, that match the *Outpatients Record* with the *Regional Health Roster*, the *Hospital Discharge Record* and the *Emergency Care Access Record* through a unique anonymous personal identifier, we use difference-in-difference methods to assess the overall impact of the "appropriateness" decree on spending and volumes of outpatient visits induced by general practitioners and to explore heterogeneity in GPs' prescriptive behavior.
- **Results:** Overall, we find a remarkable reduction in both outpatients' spending (24%) and volumes (12%) after the introduction of the decree, suggesting that the policy was effective in containing health costs. However, when we explore the heterogeneous effect of prescriptive constraints on outpatients' spending and volumes across different groups of patients, we uncover some unintended effects on vulnerable patients (i.e. the elderly, patients with cost-sharing exemptions or suffering from chronic diseases). Moreover, some degree of heterogeneity is also found in GPs' behavior, where age and seniority are associated with a lower compliance with prescriptive constraints, suggesting that a long-standing medical career might be associated with some reluctance in changing prescriptive behavior. Finally, when we analyze the relationship between outpatients' spending and patients' outcomes we find that compliant GPs associated with larger reductions in outpatients' spending are also more likely to record an increasing resort to emergency care among their patients, while the opposite holds for hospital admissions. This last finding suggests that the decree might have triggered some substitution effects between outpatient and emergency visits, without directly worsening patients' health at least in the short-run.