



**International Journal of Computational Economics and Econometrics**

ISSN online: 1757-1189 - ISSN print: 1757-1170

<https://www.inderscience.com/ijcee>

---

**Editorial**

Giorgia Marini

**Article History:**

Received:

Accepted:

Published online: 07 May 2024

---

## Editorial

---

### Giorgia Marini

Department of Legal and Economic Studies,  
Faculty of Law,  
Sapienza University of Rome,  
Piazzale Aldo Moro 5, 00185,  
Roma, Italy  
Email: [giorgia.marini@uniroma1.it](mailto:giorgia.marini@uniroma1.it)

---

In recent years, we have witnessed a rapid growth of interest in health economics.

Health economics is the branch of economics dealing with issues related to efficiency, effectiveness, value and behaviour in the production and consumption of health and healthcare, the scope of which can be divided into eight distinct topics: what influences health? What is health and what is its value? The demand for healthcare; the supply of healthcare; micro-economic evaluation at treatment level; market equilibrium; evaluation at whole system level; planning, budgeting and monitoring mechanisms (Williams, 1987). Most of these issues have been addressed by both theoretical and applied health economists combining economic theory and econometrics, exploiting advances in econometric methods.

It is thus a great pleasure to present this special issue of the *International Journal of Computational Economics and Econometrics*, entitled *Health Economics and Econometrics*, which focuses on methodological, computational, and empirical aspects of applied health economics.

The volume consists of a selection of six papers, all of them containing applications of classical and advanced statistical techniques and econometric methods to original datasets that provide policy makers with useful and relevant results in terms of procedures and planning (Atella and Decarolis), hospital efficiency (Devitt et al. and Mozhaeva and Barzdins), public health (Bhattacharya and Marini), health-affecting behaviours and nutritional regime (Gitto et al.) and health inequalities (Giannoni). In the following paragraphs, I provide a brief overview of their contents.

#### *Procuring medical devices: evidence from Italian public tenders*

Public procurement of medical devices increasingly relies on auctions to boost transparency and competition, crucial in a quality-sensitive market. Poorly designed auctions may lead to suboptimal prices or lower quality. Atella and Decarolis present new findings from Italian public tender data on orthopaedic prostheses for hips, knees, and shoulders. The study examines three key outcomes: participants, single-bidding firms, and winning rebates. It explores how tender, hospital, region, and bidder features collectively impact procurement auctions. Results indicate open auctions promote competition, fostering greater participation and lower prices than negotiated procedures.

Using the lowest price criterion enhances transparency, ensuring higher participation and more substantial rebates. Framework agreements present a trade-off, offering flexibility but at a higher cost. Region-specific programs, like *Piani di Rientro*, correlate with increased bidder participation and lower winning prices. While causation is not established, the evidence aids policymakers in refining public procurement systems, emphasising transparency, and optimising healthcare spending.

*Technical efficiency in Irish public hospitals: a multi-output distance function SFA approach*

Devitt, Zieba, and Dineen analyse output-oriented technical efficiency in the Irish public hospital system, utilising a trans-logarithmic output distance function and the true random-effects stochastic frontier model. Their findings hold significant policy implications. Firstly, inpatients are identified as the most resource-intensive hospital outputs, emphasising the need to address delayed discharges and enhance community-centred rehabilitation, home-care packages, and nursing-home care. Secondly, medium-sized hospitals exhibit higher technical efficiency than small or large counterparts, suggesting capacity expansion in Irish public acute hospitals could enhance efficiency. Thirdly, the ratio of public to private inpatients does not significantly impact efficiency levels. Lastly, while the Irish public hospital system operates at relatively high efficiency, there remains room for improvement. These insights provide valuable guidance for policymakers seeking to optimise resource utilisation and productivity in the healthcare system.

*The role of home healthcare in reducing hospital readmissions and costs in patients with acute myocardial infarction*

The aim of the paper by Mozhaeva and Barzdins is to examine the causal effects of post-discharge home healthcare services on hospital readmissions and public inpatient expenditure in the older myocardial infarction patient cohort. Using individual-level administrative healthcare data and applying the dynamic difference-in-differences approach to estimate the contemporaneous and post-intervention causal effects of homecare, Mozhaeva and Barzdins find that post-acute home healthcare provided to myocardial infarction survivors has a strong prolonged favourable effect on the probability of hospital readmissions and public inpatient expenditure. The patterns of the post-intervention effect point to considerable health improvements in patients referred to domiciliary care compared to their counterparts discharged with self-care. The indicated benefits of home healthcare provide grounds for considering the expansion in domiciliary care and homecare service coverage and the revision of the overall eligibility criteria for post-acute home-based services.

*Is the European refugee crisis a potential threat to public health? Evidence from Italy*

Bhattacharya and Marini, addressing the European migrant crisis from 2015, raise vital inquiries regarding the health consequences on the local population and healthcare expenditure in destination countries. They explore the repercussions of the massive influx

of refugees, stressing the strain on national health systems and public health. The study evaluates migrants' health issues, their impact on the resident population, and public expenditures. Utilising a standard fixed effects model, the authors assess the effects of disembarkations and refugee presence on infectious diseases and healthcare spending. From an epidemiological standpoint, integrated refugees do not compromise the local epidemiological framework, resolving the initial health problem. Results on regional healthcare expenditure suggest that, theoretically, regional healthcare authorities are not obligated to share public expenditure for refugee populations. This study provides insights into the complex interplay between migration, health, and healthcare spending in the context of the European migrant crisis.

*Might low-protein diet for chronic kidney disease patients be successful? A case study with the application of a random effects ordered probit model*

Gitto, Cernaro, Gembillo, Laudani, Metro and Santoro focus on a very important issue in health economics: health-affecting behaviours such as eating habits and nutrition. As a low-protein diet in chronic kidney disease patients delays the natural progression towards end-stage renal disease, Gitto, Cernaro, Gembillo, Laudani, Metro and Santoro focus their paper on the identification of the factors that guarantee patients' adherence to the diet and how this compliance may help physicians to provide a better assistance as well as improving patients' quality of life. Using a random effect ordered probit model, whose dependent variable is patients' perceived health status following the diet, they find that patients state that their conditions improved and that age, sex and the number of comorbidities have an impact on the probability to report worse health conditions. The results by Gitto, Cernaro, Gembillo, Laudani, Metro and Santoro emphasise the importance of an appropriate nutritional regime for patients affected by chronic kidney disease and point to the need for support programmes to promote diet adherence by policy makers.

*Financial problems and self-reported health status: an analysis for selected European countries*

Giannoni explores the link between financial difficulties and self-reported health status in adults. Using random effects probit models, the study assesses the likelihood of reporting poor physical health, chronic conditions, and daily life limitations. All estimates consider demographic, geographic, socio-economic factors, and household characteristics like over-indebtedness and housing tenure. To address potential endogeneity, recursive bivariate random parameters probit models are employed. Over-indebtedness emerges as the most impactful economic determinant of health. From a health policy perspective, Giannoni's findings suggest that, during economic crises, even countries with robust welfare systems should implement policies monitoring the health of those in poor socioeconomic conditions. Beyond income levels, supporting financially distressed households in meeting immediate needs, facilitating home ownership, and enhancing credit access for mortgages are crucial measures to consider.

I extend my gratitude to everyone contributing to the success of this special issue. Special thanks to colleagues for their support and assistance in the rigorous double-blind refereeing process. This special issue would not have been possible without the support of the economics and econometrics research communities. I hope that this collection of papers will inspire researchers and serve as a useful guide for practitioners.

### **References**

Williams, A. (1987) 'Health economics: the cheerful face of a dismal science', in *Health and Economics*, Macmillan, London.