Title: One plus one makes less than two? Consolidation policies and mortality in the Italian NHS

Objectives.

In the last decades, many EU regions and countries have cut public expenditures to align with public debt containment programs designed in response to the financial crisis. Consequently, almost all Italian regions have experienced a massive consolidation process causing a drastic reduction in their number: LHAs passed from 197 in 2003 to 101 in 2017. Mergers occurred at different timing in nearly all regions and did not necessarily involved all LHAs.

While primarly implemented for cost-saving reasons, consolidation in the healthcare sector may pose risks in terms of service quality. Fewer and larger local health departments could potentially preclude the identification of heterogenous health care needs in larger catchment areas, especially for frail population groups. The existing literature on amalgamation of local public services has produced mixed evidence on the effects on economic outcomes. The few works on the consolidation of local health services confirms the expected effects on cost reductions, little is known about the unintended impact on population health. This study investigates the population-wide health effects of the amalgamation of local health authorities in Italy in the years 2002-2018.

Methodology.

We focus on the evolution of mortality rates in the Italian municipalities using a unique dataset that combines administrative Istat data on mortality and population with data on LHAs' catchment areas reconstructed from Ministry of Health documentation for the years 2002-2018. Our primary outcome is the overall mortality rate (deaths per 100.000 residents). We employ a quasi-experimental research design that leverages within-municipality variation over time and the staggered adoption of the consolidation reform in different years. Specifically, we propose a Difference in Differences event study in which we control for heterogeneous treatment effects over time and across municipalities. We identify the causal effect of the reform by comparing municipalities switching from untreated to treated to those never treated at both dates. For the estimation, we rely on the Interaction-Weighted estimator by Sun and Abraham (2021), which is robust to time and group treatment effect heterogeneity. Our main specification of the model uses population in 2002 as weight and time-varying controls (per capita taxable income and belonging to a region subject to the debt rescheduling plan) that are related to mortality and could explain variation in the years before the policy.

Results.

Preliminary results on the causal effect of consolidation on mortality rates suggest a slight decrease in mortality one year after the reform, but a significant and persistent increase from the fourth year onward. Results remain robust even after excluding regions subject to the debt rescheduling plan. We estimate the excess deaths induced by the reform and identify sub-populations where the reform had a more significant unintended impact. Specifically, we observe notable differences between core and peripheral municipalities, as well as between smaller and larger municipalities. We further examine potential mechanisms by analyzing mortality rates for different age groups, leading causes of death, and gender. Our findings indicate that mortality increases the most for working-age individuals and for diseases of the circulatory system.

Discussion.

We discuss the implications of our results in terms of social and spatial inequalities and the persistence of the effect. Our findings contribute to the debate on decentralization and consolidation in the healthcare sector, emphasizing the need for careful consideration of both benefits and costs arising from the implementation of cost-saving mechanisms.