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The impact of New Public Management on efficiency: An analysis of Madrid's hospitals

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ABSTRACT

Madrid has recently become the site of one of the most controversial cases of public healthcare reform in the European Union. Despite the fact that the introduction of New Public Management (NPM) into Madrid hospitals has been vigorous, little scholarship has been done to test whether NPM actually led to technical efficiency. This paper is one of the first attempts to do so. We deploy a bootstrapped data envelopment analysis to compare efficiency scores in traditionally managed hospitals and those operating with new management formulas. We do not find evidence that NPM hospitals are more efficient than traditionally managed ones. Moreover, our results suggest that what actually matters may be the management itself, rather than the management model.

1. Introduction

New Public Management (NPM) policies have been introduced into public healthcare across most OECD countries from the 1980s, in response to concerns about rising healthcare expenditures, fueled by technological and medical advances in treatment, as well as an aging population [1,2]. In Spain, NPM reforms were first introduced into the healthcare system from the early 1980s, in parallel with political decentralization.[1] Decentralization allowed Spain's 17 regional governments to gain autonomy as regards decisions to introduce or reinforce NPM into healthcare, including the adaptation of new hospital management models, such as different forms of public private partnership (PPP) [3]. Since then, regional governments in Spain have increasingly introduced NPM reforms into healthcare, particularly in Catalonia and Madrid [4]. However, vigorous NPM-related reform of the Madrid healthcare system has been highly controversial.

This paper focuses on the reform of hospitals belonging to the Madrid Regional Health Service (henceforth, SERMAS). Emulating healthcare reforms in the UK, Madrid vigorously implemented the use of new hospital management formulas, through the implementation of purchaser/provider split, use of PPPs, contracting out and the introduction of competition between hospitals. Moreover, reforms in Madrid gained increased traction during

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[1] Decentralization took place during the 1980s and 1990s, transferring powers in healthcare management gradually across the different Spanish regions, firstly to Catalonia (1981), Andalusia (1984), the Basque Country and Valencia (1987), Galicia and Navarra (1990) and the Canary Islands (1993). The healthcare decentralization process ended in January 2002, when the devolution of autonomy and power from the central government to all regional governments was completed [3].

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the ongoing economic and financial crises. Nevertheless, the implementation of healthcare reform has proved controversial and witnessed widespread protest by citizens and healthcare professionals. In particular, the attempt to contract out clinical services delivery in six public hospitals sparked popular criticism [5]. A popular movement formed by doctors, nursing staff and citizens – the so-called "white tide" – took the streets in Madrid several times from November 2012 [48]. Despite this massive popular opposition, the contracting out bidding process went ahead. However, in January 2014, the regional government abruptly declared it would halt the contracting out plan, soon after the Madrid High Court suspended the process [6].

Policy-makers and scholars have argued that NPM techniques would increase efficiency in the health care sector, by introducing criteria from private sector management into traditional methods of public administration [7]. In the Spanish context, policymakers have used repeatedly the efficiency improvement argument to introduce new management formulas in healthcare delivery [8].

Theory suggests that NPM-related policies may enhance the efficiency of public service delivery, such as healthcare provision (for a comprehensive overview of NPM and efficiency, see [9]). However, the benefits of NPM-related tools in healthcare delivery have been already questioned from an international perspective (see, for example, [10–13]). Moreover, there is no clear evidence supporting efficiency gains as regards the use of new management formulas in Spain,[2] which is adding fuel to an already heated debate in relation to the pros and cons of introducing new management formulas in public hospitals.

The central aim of this paper is to evaluate whether the NPM reforms implemented in the SERMAS hospitals' network are indeed associated with efficiency gains. To do so, this paper carries out a comparative analysis of the performance of traditionally managed hospitals and those adopting new management formulas, for hospitals belonging to the SERMAS in the year 2009. We assess the relative hospitals' efficiency by means of standard data envelopment analysis (DEA) techniques and a DEA-bootstrap approach, followed by a second-stage consisting of a statistical analysis to assess differences in efficiency scores between the two groups by means of a Mann–Whitney *U* test and an analysis of DEA bootstrapped confidence intervals.

To the best of our knowledge, this is the first study to analyze efficiency differences between traditionally managed hospitals and those ones operating under new management formulas in Madrid. Thus, this paper sheds new light on the current debate about the use of new forms of public hospitals' management in Spain. One reason for this lack of empirical evidence may be the opacity of the Spanish NHS; although there is a considerable amount of information on Spanish hospitals in public databases, data is anonymized, making it difficult to identify hospitals and thus, to identify the management model. To overcome this problem, we crossed two different databases to extract individual hospital information (for a detailed explanation see Section 3.2).

The rest of the paper is organized as follows. Section 2 synthesizes the main NPM-style policies implemented in Spanish hospitals, with a particular focus on Madrid. Section 3 describes the data and the methodology used for inference. Section 4 reports the analysis results and interprets them. Section 5 concludes, summarizing our findings, their policy implications and possible directions for further research.

2. New hospital management models

Though the Spanish public health system had contracted out some services to private hospitals for decades [15], the legislation passed during the second half of the 1990s introduced new managerial formulas to govern publicly owned hospitals, significantly reshaping the healthcare landscape. At the central government level, Law 15/1997 was particularly important, since it enabled the implementation of a wide array of new hospital management models. Previously, during the first half of the 1990s, the ruling Socialist party had already passed legislation aimed at introducing more efficient and flexible organizational formulas, such as Law 30/1992, which regulated, among other things, the so-called "*consorcios*" (consortia), and Law 30/1994, which first regulated the foundations model. When the conservative Popular Party (*Partido Popular*) gained power from 1996, it approved Royal Decree 10/1996,[3] which allowed for the use of new hospital management models, with the explicit aim of "introducing more flexible organizational formulas, in order to meet the demands of efficiency and social profitability of public resources [*sic*]". Most importantly, Law 15/1997 – the result of the parliamentary processing of Royal Decree 10/1996 – enabled at the national level the implementation of new managerial formulas to govern public hospitals, and also contemplated private sector involvement in the delivery and management of public healthcare services. With this, the entry of private providers into public healthcare delivery was facilitated further (for a comprehensive overview of the legislative framework behind the adoption of new hospital governance formulas in Spain, see Alvárez and Durán [16]).

As a consequence of these changes to the legislative framework, the introduction of NPM-related policies to the public healthcare services increased across Spanish regions. By 2002, when powers in healthcare management had been fully transferred to all Spanish regions, Madrid emerged as one of Spain's most active sites of healthcare reform.[4] Here, two main actions were taken as regards hospital management: (i) introduction of market-driven mechanisms through the separation of purchaser and provider, with the aim of transforming the public hospital network into a large number of smaller firms, with

[2] For an overview about the empirical evidence as regards the use of new management formulas in the Spanish NHS, see [14].

[3] Royal Decree 10/1996 about new management formulas of the Spanish NHS.

[4] Through the implementation of Law on Health Organization of the Community of Madrid (LOSCAM-Law 12/2001).