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Research Review

The role of chief medical officers in the Italian context: managers or clinicians?

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Abstract

Purpose – Despite the advent of New Public Management theories over three decades ago, doubts persist regarding the practical implementation of these principles in the public health-care context. Challenges arise particularly from the type of system where this phenomenon is analyzed. In the Italian context, for instance, it can be arduous to define universally applicable organizational behaviors, given the interregional disparity that characterizes such a system. Furthermore, the professional identity of clinician-managers influences the perception of what "being a manager" means. This paper, thus, using the Italian context as a reference, aims to delineate what is the perception of Italian public hospitals clinician-middle-managers in terms of their responsibilities and tasks.

Design/methodology/approach – A survey-questionnaire was distributed to 6,011 Chief Medical Officers (CMOs) in Italian public hospitals, representing 100% of such role holders in the country. With a response rate of 16.7%, 1,005 responses were obtained. The questionnaire assessed CMOs' attitudes toward specific activities relevant to clinician-management, ranked from most to least important. Activities were derived from literature and categorized to discern management styles. Subgroups based on geographical location and professional orientation were also identified to isolate regional effects and professional identity influences.

Findings – Results suggested that activities associated with a collaborative approach are perceived as most important. Furthermore, it clearly emerges the difference based on professional orientation of CMOs. However, it could not be appreciated the same level of difference basing the analysis on regional disparities.

Originality/value – The interest in the role of middle management in healthcare organizations has increased over the years. Nevertheless, currently the authors believe that not many studies are focused on defining what "being a manager" means for clinician-managers themselves, rather than explaining what clinician-managers shall do.

Keywords Chief medical-officers, Clinician-managers, New public management, Hospital management

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Introduction

The New Public Management (NPM) theories arrived first in the health care context across almost every public sector worldwide (Hyndman and Lapsley, 2016). As a matter of fact, in the past decades, the health care sector in almost all OECD countries has been characterized by the introduction of different measures in order to increase its efficiency and effectiveness. Among those measures, the increasing competition with private actors (Alonso *et al.*, 2015), splitting the role of purchasers and providers (Takian *et al.*, 2015), defining new organizational models aiming to interact more with private entities (e.g. public-private partnerships) (Pratici, 2022), defining new funding methods activity-based (Lindaas *et al.*, 2024), defining new governance structures that can be useful to improve hospitals' performances (Ghavamabad *et al.*, 2021) and the definition of new hybrid roles creating professionals-managers (Vinot, 2014) represent the most relevant ones.

Principles of the NPM were then adopted by governments to implement their health care reforms; the main objective of these reforms consisted in asserting a simple principle: management becomes the most important leverage to improve public health organization performances (Lapuente and Van de Walle, 2020; Ghavamabad *et al.*, 2021). If funding was seen as the main issue to be addressed up until the 1980s in all major health care systems around the world, the introduction of NPM principles begun to look at the funding issue as a direct consequence of managerial actions (Lega *et al.*, 2014; Pratici *et al.*, 2023a), and, thus, the creation of professionals with a strong managerial characterization becomes crucial.

In Italy, NPM reforms were introduced starting from the 1990s (Pratici *et al.*, 2023b), but despite this, the logics that constitute the base of the NPM, as of today they have not yet been fully absorbed (Terlizzi and Esposito, 2023). The turning point was in 1992 where, with Legislative Decree no. 502/92, many novelties were introduced: public-private partnership became a popular organization model, the role of private actors has increased significantly and activity-based funding became the main way to finance public hospitals. In other words, hospitals began to act as independent entities, with the result of producing a responsible management and creating hybrid roles. In other words, management now matters more (Pratici, 2023)!

In this shift from a more bureaucratic culture to a system based on principles funding the NPM current, there emerged a need for a new professional figure: someone able to combine his/her clinical skills with managerial competencies (Skirbekk *et al.*, 2018): the clinician-manager.

In the context of public hospitals, medical directors share responsibility with middle management and are crucial in driving organizational change (Vinot, 2014). Hence, in the decades following the reform, it became pivotal to support the evolution of this role (Fanelli *et al.*, 2022). Management training programs were heavily utilized to encourage and support changes in the role and responsibilities of clinicians (Fitzgerald and Sturt, 1992). It was anticipated that physicians trained as managers would not only positively impact their patients but also the organization and the entire system (Hilty *et al.*, 2021). Moreover, clinical leadership was expected to improve outcomes for patients. These studies suggest that clinicians should be engaged in training and supported to become leaders not only from an educational perspective but also in practical terms of exercising their role (Till *et al.*, 2020).

However, management training is not always successful in overcoming the often-strong resistance to change from a professional culture to a clinical governance-oriented culture (Putri *et al.*, 2020). Emerging resistances are usually related to the challenging process of changing the role of the clinician: a common misconception is that a managerial role implies abandoning "being a proper doctor" (Fanelli *et al.*, 2022).

Since this shift in the culture of public hospitals' management, a vast body of scientific literature and discussions in the field of healthcare management has been produced (e.g.

Øvretveit, 2000; Lega and Sartirana, 2016; Ghavamabad *et al.*, 2021; Pratici *et al.*, 2023b). However, despite a general agreement on the new principles emerged from scholars and governments, management practices resulted in heterogeneous outcomes based on heterogeneous situations.

Furthermore, despite the agreement among scholars on NPM theories, it is clear that no one model fits all, given the disparities across different contexts. Institutional contexts, for instance, strongly influence how public organizations behave (Skålén, 2004). In the case of Italy, the disparity is generally perceived within the same National Health System (NHS), as health care is a regional matter since the Constitutional Reform of 2001, making 19 regions and two autonomous provinces almost completely independent regarding public health management (Brosio, 2003).

Considering all this, the key figure of NPM theories in healthcare consists of clinicians who act as first-line professionals in their unit but also possess a management role (Van Der Wal, 2020). In Italy, this role is proper to a special figure defined as *Direttore di Struttura Complessa* (translated in English by several scholars as Chief Medical Officers, CMOs). This figure assumes responsibility for the organizational unit, requiring them to become managers (Fanelli *et al.*, 2022). As a matter of fact, the new chief of the unit is still a clinician, who is also responsible for running and organizing the structure, planning and scheduling projects; managing clinical outcomes; managing human resources and overseeing financial, technical and administrative targets (Fanelli *et al.*, 2020a, 2020b; Pratici *et al.*, 2023b). Understanding how this role is perceived by clinicians is crucial, as there is often a lack of clarity about their responsibilities (Arora *et al.*, 2009; Fulop and Day, 2010), despite the 1992 reform has been introduced over 30 years ago (Pratici *et al.*, 2023b).

Thus, this paper aims to explore the role of clinician-managers (CMOs) in public hospitals in Italy, 30 years after the Legislative Decree 502/1992 which introduced this role, analyzing their perspectives and priorities regarding managerial activities to better understand how they interpret their role. Many studies have been conducted upon the interpretation of public hospital middle management role (Lopes *et al.*, 2020; Vainieri *et al.*, 2019; Fanelli *et al.*, 2022), but conclusions have always been discordant.

Specifically, this paper proposes three research questions to be addressed: *RQ1:* "What is the current orientation of clinician-managers toward management principles, and which managerial activities are considered crucial to their role?" or in short "What should a CMO do?". Despite a large amount of publications on the role of middle management in the health care sector (e.g. Currie and Procter, 2005; Skela Savič and Robida, 2013; Gjerde and Alvesson, 2020), this question remains widely open and different organizational contexts may bring different results. RQ2: "Given that the Italian system is a quasi-federal system characterized by substantial institutional differences, especially between the North and South of the country, does operating in different geographic contexts influences the relevance of different types of managerial activities?" or in short "What is the institutional influence on being a CMO?". Other research has underlined the disparities across a quasi-federal country, such as Italy, in terms of health care outcomes (Fanelli *et al.*, 2020a, 2020b; Costa *et al.*, 2020; Pratici *et al.*, 2023b) and therefore it seemed only logical to investigate the institutions' role even on CMOs perceptions' of their role. RQ3: "Have professional principles been effectively integrated with managerial principles, or does a professional development orientation still prevail?" or in short "Are CMOs more oriented toward clinical duties rather than management activities?". The logic of this RQ is based on works that defined different orientations according to different specialties (Rademakers *et al.*, 2007; Mountford and Webb, 2009), and conclusions of studies conducted in public hospitals seem to agree on the role covered by the specialty of a professional in her/his interpretation of her/his role.

Background

What should a chief medical officer do?

During the past 30 years, management of healthcare organization, given principles introduced by the NPM, has undergone major changes (von Knorring *et al.*, 2016). Akbulut *et al.* (2010) have categorized these changes into three broad areas. First, there are changes related to the demand for healthcare services due to population aging, disease patterns and citizen expectations. Second, there are significant changes concerning technology, clinical knowledge and workforce characteristics. Finally, there are societal changes, such as increasing financial pressures, internationalization of healthcare systems and the global research and development market.

In this context, middle management plays a crucial role in fostering innovation and ensuring that healthcare organizations can successfully implement change (Kanter, 2004). Middle managers act as the link between top management and employees, enabling the strategies defined by senior management to be realized through daily operational processes (Pappas *et al.*, 2004). Middle managers are more likely to understand where organizational problems lie and thus intervene promptly to identify the most effective solution. It is commonly thought that organizational performance heavily relies on the managerial capabilities of middle management, their decisions and actions. Conversely, healthcare organizations that are undermanaged will find it harder to effectively execute changes (Embertson, 2006).

Therefore, interest in the role of middle management in healthcare organizations has increased over the years. Numerous studies have focused on investigating managerial competencies in healthcare (Ireri *et al.*, 2017; Aini, 2018; Fanelli *et al.*, 2020a, 2020b); others have explored the relationships between middle managers and top managers (von Knorring *et al.*, 2010; Lega *et al.*, 2022); many scholars have sought to identify the link between managerial role and hospital performance (Wallick and Stager, 2002; Birken *et al.*, 2018). However, studying the role of middle management in healthcare organizations is quite complex. In many industrialized countries, the role of middle manager is occupied by a healthcare professional, who therefore has a clinical background rather than a managerial one. The figure of the clinician-manager has thus become widespread, requiring a combination of technical professionalism with managerial efficiency. The decision to entrust clinicians with managerial and organizational tasks stems from the belief that doing so can ensure greater process efficiency and service quality (Van Dooren, 2010). When both clinical and managerial skills are combined in one role, patient care and outcomes are improved (Akbulut *et al.*, 2010). However, medicine and management follow two very different logics, making it difficult for a manager with a clinical background to transition between fields. Many clinician-managers lack the training in healthcare management or the understanding necessary for good management (Akbulut *et al.*, 2010; Fanelli *et al.*, 2022). Several studies indicate that clinicians have difficulties in adopting their managerial role (von Knorring *et al.*, 2016). Lindholm and Råstam (1999) found in their study that clinician-managers tended to consider their original profession as more important than their managerial role and also relied on their professional experience for managerial decision-making processes. Thus, having a managerial responsibility in healthcare organizations was long regarded as a mere administrative task in relation to the medical profession (Grey, 1997; von Knorring, 2012).

Thus, investigating which managerial activities are considered most relevant by clinician-managers in fulfilling their role is of vital importance for healthcare organizations striving for innovation, change and improved performance. It is the organization's responsibility to promote the development of key competencies for clinician-managers and create

organizational conditions to enable middle managers to perform their functions effectively (Fanelli *et al.*, 2022).

Henry Mintzberg (1973) was the first to study managerial roles, identifying ten types of managerial roles (i.e. figurehead, leader, liaison, monitor, disseminator, spokesman, entrepreneur, disturbance handler, resource allocator, negotiator). However, Mintzberg's study focused on managerial activity across various industries and was not limited to the healthcare sector. Subsequent authors have focused on managerial activities in the healthcare context. For instance, Zuckerman *et al.* (1997) identified a trinity model of managerial roles, referring to the manager as a strategist, a leader, and a designer. However, this classification, although focused on the healthcare industry, appears somehow excessively generic (Guo, 2003). A more specific study was then conducted by Wallick and Stager (2002). In their study, the authors identified seven managerial roles: manager, analyst, intervention selector, intervention designer and developer, intervention implementer, change leader and evaluator. However, the study was limited to private healthcare organizations' CEOs. More focused on middle management is Guo's (2003) research, which defines six managerial roles based on manager activities in healthcare: leader, liaison, monitor, entrepreneurial strategist, disturbance handler, and resource allocator. However, as the author acknowledges, his research is based on a relatively small sample of managers and is therefore not generalizable, and it is also outdated. Guo himself emphasizes that his results are linked to the healthcare context of the time, but in a continuously evolving healthcare scenario, the managerial role also develops and modifies itself. Subsequent studies have focused only on specific roles of middle managers in healthcare, such as in innovation implementation (Birken *et al.*, 2012) or in the implementation of evidence-based practices (Birken *et al.*, 2018). Therefore, to the best of our knowledge, there is a lack of a study that investigates the managerial activities of clinician-managers today and can delineate the different management orientations that can be adopted in the current healthcare context. In fact, Veenstra *et al.* (2017) has proposed a work based on two methodologies (literature review and Delphi study) investigating exactly the managerial role of health professionals. Their study contributes the the existing branch of the literature, however they do not investigate directly over what is considered to be relevant by health professionals but they define over the literature the clinician-manager role. For this reason, the following RQ is proposed: *what is the current orientation of clinician-managers to management logics and which managerial activities are considered crucial to exercise their role?*

What is the institutional influence over chief medical officers? The Italian context

The Italian context is characterized by a dualism between the northern and southern regions of the country. Indeed, a persistent territorial divide in the regional health care in Italy has been seen to be, at least partially, the possible cause of a large heterogeneity of outcomes rates among regions (Arcà *et al.*, 2020, Lagravinese *et al.*, 2019).

However, Italy has a very decentralized system when it comes to health care, and in some cases it is defined as a quasi-federal country in specific matters (i.e. health care). The country is composed of 19 regions and two independent provinces, and all these institutional entities have their own policies when it comes to health. Indeed, it is not rare to find scholars stating that Italy, *de facto*, possesses 21 different NHSs, referred sometimes as "Regional Health Systems" or RHSs (Garattini *et al.*, 2020).

Furthermore, national policies are not necessarily applied homogeneously by all regional governments, enhancing the risk of disparities across the Country on the quality of care provided. This implied also throughout the years that regional activities have been complicated on account of many piecemeal legislative measures issued by the numerous governments over time (Pavolini and Vicarelli, 2012).

The relationship between the central government in Rome and each region on the health matter is thus often complex and it is not clear what is the role of each actor taking part to the provision of care (Garattini *et al.*, 2020). In general, the central government oversees and coordinates the Italian NHS (I-NHS), financing the regional health system. In this matter, regions can be considered as a sort of holding, controlling two different types of trust in its territory: The *Azienda Sanitaria Locale*, a local health authority providing the territorial assistance, and the *Aziende Ospedaliera*, a trust that manages one of more hospitals. Moreover, other types of public and private hospitals characterize the system: University hospital authorities, Institutes for scientific research and care and private hospitals, above all. However, all these organizations are often identified as mere organs of the holding, rather than independent entities and a strict set of regulations as well as a very vertical hierarchy with institutions generally prevent organizations from operating with the necessary autonomy when an event occurs (Salvatore *et al.*, 2018; Carinci, 2020).

Thus, each region has its own peculiarities and different systems. Some of them are more focused on hospitals while others more focused on territorial health care providers (Mugnai and Bilato, 2020). Considering these characteristics, one can anticipate a strong disparity even in management approaches to hospital issues (Sarto *et al.*, 2016), arising from the different system that define each organization.

Furthermore, the country shows a pronounced cultural discrepancy between the North and the South in terms of management practices (Capello, 2016), and this claim is supported by an extensive body of managerial literature in different fields (Kuhlmann and Fedele, 2010; Marra, 2014; Fanelli *et al.*, 2020a, 2020b). In the health care sector, this difference is also reflected in clinical outcomes (Fanelli *et al.*, 2020a, 2020b), and consequently one could expect a significant disparity in the interpretation of managerial roles.

Given all this, it is possible to link this discussion with the following RQ: *Given that the Italian system is a quasi-federal system characterized by substantial institutional differences, especially between the North and South of the country, does operating in different geographic contexts influence the relevance of different types of managerial activities?*

Are chief medical officers acting differently according to their managerial orientation?

A key issue in healthcare reform and in the acknowledgement of what should a CMO in a public hospital do, has been the medical profession's reluctance to adopt management values (Dopson, 1996; Pratici *et al.*, 2023b). Clinicians are indeed trained along narrow professional lines which often take no account of the wider inter-professional and organizational factors within their employing organizations (Forbes *et al.*, 2004). Very often managerial priorities (such as cost control, accountability, teamwork) are considered by clinicians as limitations to their work activities and their levels of autonomy, and they consider clinical competence as the only source of legitimacy of their actions (Edwards, 2003; Lega and Prenestini, 2009).

To this is added that previous studies have shown that clinician-managers nationwide often feel unprepared for their management duties (Fanelli *et al.*, 2020a, 2020b), and that clinician-managers feel more comfortable in performing their professional duties than in acting as real managers (Pratici *et al.*, 2023b).

Precisely for this reason, it is crucial to understand what the feeling of CMOs in the perception of their role is. And this brings to the RQ: *Have professional logics been effectively integrated with managerial logics, or does a professional development orientation still prevail?*

Methodology

This paper aims to investigate the role of clinician middle managers in Italian public hospitals: how they feel "being a manager" means, how they integrate their professional

character with management duties and what is the influence of regional policies in their way of "being a manager."

The research questions proposed imply the use of a quali-quantitative approach developed through a questionnaire administered to CMOs working in public hospitals all over Italy. Questionnaire data were collected from January 2023 to August 2023. The criteria for respondent selection were defined following the approach adopted by Pratici *et al.* (2023b) and can be summarized in the following statement: being a professional holding the position of Chief Medical Officer (CMO, *Direttore di Struttura Complessa;* i.e. clinician middle manager) at a national public hospital. This methodology aligns with the model of privileged observers as defined by Della Porta (2014), designating respondents as "directly involved in the investigated process" and highlighting that "responses provided are directly dependent on decisions taken firsthand by the respondents" (Della Porta, 2014, p. 142).

The original database comprised 6,201 respondents, representing the entire population of CMOs in Italy. The overall response rate achieved was 16.2%, equivalent to 1,005 responses deemed useful for subsequent analyses.

The questionnaire consisted of two parts. The first part collected personal data about respondents, including the type of healthcare facility they work for, their role, geographical location of their facility, their age, and their gender, the amount of time dedicated to clinical duties and managerial tasks (as a percentage of their total work time).

The second part aimed to inquire about activities considered most important in fulfilling their role as CMO. The specific formulation of the question in the second part of the questionnaire is as it follows: "Can you rank the following eight activities, evaluating the importance you assign to each in performing your role as a CMO?".

Respondents were indeed presented with eight items identified as relevant activities for a CMO internationally (Fanelli *et al.*, 2020a, 2020b; Liu *et al.*, 2018; Salvatore *et al.*, 2018; Karuppan, 2014; Osborne, 2006). These items constituted a set of activities typically associated with clinician-managers and were as follows: (1) Understanding complex phenomena using multiple indicators (analysis of epidemiological data, trends, etc.); (2) Interpersonal communication; (3) Defining goals consistent with available resources; (4) Defining skill development paths with subordinates; (5) Conducting economic evaluations, considering efficiency, effectiveness and quality; (6) Fostering a collaborative organizational climate; (7) Planning organizational structures and processes; (8) Evaluating clinical, health and care outcomes.

These items were retrieved from the work of Pratici *et al.* (2023b), where the questionnaire administered for this present work was also scientifically validated and items were retrieved by a the use of focus group methodology.

As respondents were asked to rank the proposed activities from most to least important, corresponding, for each ranking each item received a score from 1 to 8 points. The item would score 8 if ranked first, 7 if ranked second, and so forth. The total score obtained for each activity was subsequently divided by the total response frequency, resulting in a score ranging from 1 to 8 points. A higher score indicated greater importance attributed to the activity by the respondents. The mean value, the median value and the standard deviation were then calculated on the obtained score and clustered into different respondents' groups.

The eight items were finally grouped in three areas to better shape the analysis. Identified areas consists of:

(1) collaborative approach;

(2) rational approach; and

(3) quality-of-care approach.

Table 1 connects each item to the assigned area. The analysis conducted by area helps in better understanding results and formulate conclusions.

A further step was thus made, and independent *t*-test and one-way analyses of variance were performed to compare responses given by different clusters of respondents, based on their personal data. More specifically, we investigated differences within the group based on: north and south of the Country, to determine if disparities across regions could be found in light of the strong differences characterizing the Italian system; the amount of clinical activity conducted during the day, as Pratici *et al.* (2023b), in their time-driven analysis of activities performed by clinician-managers, found a relevant difference between different professionals based on their role and, more specifically, on how much time they dedicate to their clinical duties rather than managerial tasks.

These analyses aim to address the issue of integrating professional activities with management tasks and has the final purpose of addressing the issue: *what clinician middle managers feel they should do*. Since medians did not correspond to the means identified, the asymmetry index was calculated to test the hypothesis of normality. All analyses yielded were carried for alpha = 0.1.

A power analysis was also conducted, to ensure the sample size was adequate for detecting meaningful differences in the roles and orientations of CMOs. Being the total population of CMOs approximately around 6,000, using Stata version 15.1, we calculated the required sample size to achieve a power of 0.80 with an expected large effect size (Cohen's $d > 0.8$). This analysis indicated that a minimum of 152 participants would be necessary for each group to detect significant differences with high confidence. Given the actual sample size (1005 CMOs) and the number of observations in each subgroup identified, the study appears to be well-powered to detect even smaller effects, ensuring robust outputs in the analyses performed.

Table 2 describes the sample tested.

Results

Table 3 shows the mean of scores identified for each item. It is possible to appreciate how Fostering collaboration and creating an organizational climate within the organization appears to be the most representative task felt by clinician middle-managers. Defining goals consistent with available resources, paired to fostering a collaborative climate within the organizations appears to be as well a relevant issue felt by middle-managers. Group A "Collaborative Approach," indeed, appears to be the group totalizing the higher scores.

Table 1. Items per area

Area	Items
Collaborative approach	Fostering a collaborative organizational culture
	Interpersonal communication
Rational approach	Understanding complex phenomena using multiple indicators (analysis of epidemiological data, trends, etc.)
	Defining goals with available resources
	Conducting economic evaluations, considering efficiency, effectiveness and quality
	Planning organizational structures and processes
Quality-of-care approach	Defining skills development paths with subordinates
	Evaluating clinical, health and care outcomes

Source: Authors' own creation

Table 2. Sample description

	Sample description		
	Frequency	%	Mean/Media/Max-Min
Gender			
Male	794.00	79.00	
Female	211.00	21.00	
Age			
Less than 45	17.00	1.69	
Between 45 and 54	133.00	13.23	
Between 55 and 64	650.00	64.68	
65 and over	205.00	20.40	
*Geographical distribution**			
North	644.00	64.08	
South	361.00	35.92	
Seniority of service as CMOs			
Mean			8.90
Median			8.00
Max			19.00
Min			—
Size of the unit			
Mean			38.00
Median			42.00
Max			156.00
Min			4.00

Note: *Signify according to Istat (Italian Statistical Institute) classification
Source: Authors' own creation

Table 3. Items' means of the identified scores

N	Items	Group	Mean	Median	St. dev.
1	*Understanding complex phenomena using multiple indicators (analysis of epidemiological data, trends, etc.)*	B	3.85	4.00	0.97
2	*Interpersonal communication*	A	4.63	4.50	0.83
3	*Defining goals consistent with available resources*	B	4.81	5.00	0.91
4	*Defining skills development paths with subordinates*	C	4.64	4.50	1.07
5	*Conducting economic evaluations considering efficiency, effectiveness and quality*	B	2.95	3.00	0.88
6	*Fostering collaborative organizational climate*	A	6.19	6.00	0.47
7	*Planning organizational structures*	B	4.40	4.50	0.89
8	*Evaluating clinical, health and care outcomes*	C	4.52	4.50	0.76
A	Collaborative approach		5.50	5.50	0.69
B	Rational approach		4.00	4.00	0.91
C	Quality-of-care approach		4.58	4.50	0.92

Source: Authors' own creation

Items generating the lower scores are "Understanding complex phenomena using multiple indicators" and "Conducting economic evaluation," both belonging to group B. The survey also aimed to compare the perception of CMOs focusing on differences between two types of groups: CMOs working in the Northern part of the country against CMOs working in the Southern part, and CMOs more oriented toward clinical duties against CMOs more oriented toward managerial activities. For sake of simplicity, and to make the article more readable, only areas' scores are shown.

Independent samples t-tests were conducted to compare the mean scores for each area, corresponding to a different managerial style (i.e. Collaborative Approach, Rational Approach and Quality-of-Care approach). The assumption of normality and homogeneity of variances were checked, with pooled standard deviations calculated as 0.69, 0.91 and 0.92 for the Collaborative, Rational and Quality-of-care approach, respectively. The results indicated statistically significant differences with *p*-values less than 0.10 for the Collaborative and Rational approach in both cases when dealing with the differences between North and South, and only for the Rational approach when dealing with CMOs more or less oriented toward clinical duties or managerial activities. No statistical significance has been found for the Quality-of-care approach.

Effect sizes, measured by Cohen's *d*, were 0.83 for the Collaborative approach, 0.74 for the Rational approach and 0.80 for the Quality-of-care approach, suggesting a decent practical significant in the differences observed.

Results retrieved from Table 4 appears to be all statistically significant, but the ones identified for area C "Quality-of-care approach." The differences between the means are less than 0.08 in all cases, suggesting a potential homogeneity of organizational behavior throughout the country. A slight difference can, however, be perceived between North and South when it comes to "Collaborative approach." CMOs from the North seem to attribute more importance to fostering a collaborative environment between collogues (with a +0.12 difference).

To classify CMOs more oriented toward clinical activities and less oriented to clinical duties, we took the whole sample and considered the question: "How much time in terms of percentage do you spend on clinical duties rather than management duties?". We then calculated the median and who scored less than the median was assigned to the group of those "Less oriented toward clinical activities." By contrast, who scored more than the median, was assigned to the group "More oriented toward clinical duties." Results in Table 5 suggest that, despite the minimum difference registered between the two groups, CMOs less oriented toward clinical activities tend to have a slightly higher "Rational approach." On the other hand, a weaker orientation to clinical duties may affect the "Quality-of-care approach." This last statement is, however, not supported by statistical significance of analysis performed.

Table 4. Items groups classification by geographical context

Item group		North			South				
		Mean	Median	Dev.st.	Mean	Median	Dev.st	Diff	*P*
A	Collaborative approach	5.05	5.00	0.71	4.97	5.00	0.65	0.08	0.0001
B	Rational approach	3.41	3.50	0.90	3.44	3.50	0.93	−0.04	0.0159
C	Quality-of-care approach	4.03	4.00	0.94	4.03	4.00	0.88	0.01	0.1152

Source: Authors' own creation

Table 5. Items groups classification by clinical activity

Item group		North			South				
		Mean	Median	Dev.st.	Mean	Median	Dev.st	Diff	*P*
A	Collaborative approach	5.47	5.50	0.75	5.36	5.00	0.59	0.11	0.1892
B	Rational approach	3.83	4.00	0.93	4.14	4.00	0.90	−0.31	0.0001
C	Quality-of-care approach	4.87	4.50	0.89	4.45	4.00	0.95	0.42	0.1429

Source: Authors' own creation

This paper also attempted to combine results obtained by the two clusters. Statistical significance of this combination was, however, weak and therefore, no conclusive argument could be produced on this matter. However, it was possible to note how regional differences accounts for a very little portion of the differences than can be registered between CMOs.

Discussion

This paper investigated the role of health professionals in exercising their managerial duties. Since they are increasingly required to combine managerial activities with their clinical activities, as discussed by a large branch of the recent literature (e.g. Øvretveit, 2000; Skirbekk *et al.*, 2018; Pratici *et al.*, 2023b), it is crucial to understand their perception and their sentiment in "being managers." The issue of combining professional and managerial skills is common among many health systems of around the world, and although the various health systems differ in their main structures as well as available resources, it is widely recognized that nowadays professionals need to focus their attention on both clinical and management aspects of their work (Fanelli *et al.*, 2022). However, evidence shows that it is not unusual to appreciate middle-managers in this context having different perceptions of their role.

This research, thus, aimed to understand the perception of CMOs role after more than 30 years from the 1992 reform in Italy, which introduced a new composite role and brought about a significant transformation in the management of public health organizations (Marcon and Pagnozzo, 1998). During the 1990s, there was widespread inadequacy in managerial skills among clinician-managers in numerous countries (Mark, 1995), yet central governments frequently implemented training programs and initiatives aimed at enhancing management practices within public hospitals (Ferlie and Ongaro, 2015). Despite these initiatives, however, other studies indicate that clinician-managers still perceive themselves as somewhat unprepared for their managerial responsibilities (Lega and Sartirana, 2016; Fanelli *et al.*, 2022). Results emerging in this paper seem to confirm theories of previous years, as sometimes there no homogeneity between CMOs in interpreting their managerial role. However, mixed results show disparities based on different clusters of CMOs.

Addressing the question of what clinician middle manager feel to be the most important activity that characterizes their role, "fostering a collaborative organizational climate" emerged as the main responsibility they feel by far. The significance of this theme is evident, as it implies that the quality and efficiency evaluation system is not among the priorities of CMOs. This is in line with conclusions of previous literature (Isfahani *et al.*, 2015); however, it is in contrast with the general principles of NPM (Lega *et al.*, 2014; Fanelli *et al.*, 2020c). Furthermore, it highlights a professional culture strongly linked to the organizational aspects of teamwork and relativizes the role of managerial processes (Wallick and Stager, 2002).

However, on the other hand, scholars in the past proven the importance of fostering a collaborative organizational climate to maximize the teamwork and improve general outcomes (Seren and Baykal, 2007).

Furthermore, this evidence appears to be significantly confirmed according to the tripartition of organizational orientation that has been analyzed: Collaborative approach, Rational approach, Quality-of-care approach. The Collaborative approach finds significant relevance, expressing the CMOs willingness to manage their own organizational processes with their collaborators.

On the other hand, it emerges how "conducting economic evaluations" is a competence they perceive as external to their role of managers, in contrast with what is proposed by NPM principles (Arora *et al.*, 2009; Fulop and Day, 2010).

Addressing *RQ1* (What should a CMO do), however, is a complicated task, as many other factors should be taken into consideration (e.g. organizational performances, personal orientations, etc.). However, the "Collaborative approach" emerges as the main area in which CMO should focus on, rather than *Rational approach* and *Quality-of-care approach.*

Trying to deep into the characteristics of the system, it does not appear to be significant differences in relation to geographical location (north-south) and, as such, no strong relations can be found between institutional constraints and organizational behaviors of CMOs. This is in line with previous literature and enforce the principles according to which, despite the existence of a strong gap between North and South of the country in terms of outcomes (Mountford and Webb, 2009; Pavolini and Vicarelli, 2012), regional disparities are not producing disparities among the interpretation of what "being a manager" means. Thus, this may suggest the existence of a common organizational culture unrelated to the regional policies characterizing the Italian context since the Constitutional reform of 2001 (Pratici *et al.*, 2023b).

RQ2 can thus be address with a single statement: it is not possible to appreciate significant differences between regions in any of the tested area.

However, several differences can be perceived between those more oriented to clinical duties rather than management duties.

In particular, there emerges significant differences when it comes to the "Collaborative Approach." More than 50% of CMOs tend to dedicate most of their time to clinical duties and those professionals are more oriented toward fostering a collaborative climate. That means also that 50% of the CMOs tend to see as even more relevant the issues related to the area of "Collaborative Approach." The gap is well appreciable when it comes to the other areas, with CMOs more oriented to the clinical duties appears to have a stronger attachment to the area related to the "Quality-of-care approach."

Thus, these gaps suggest that the orientation of CMOs in terms of the time spent between clinical duties and management duties has some influence in their perception of being a manager, despite the general ranking remaining unchanged. *RQ3* is then addressed by stating that orientation toward clinical duties is relevant to the meaning of being a manager. This is in line with a previous branch of the literature (e.g. Rademakers *et al.*, 2007; Mountford and Webb, 2009). However, it also suggests a new point of view: despite having an influence on how CMOs interpret their role, the general importance ranking related to the single areas identified remains the same. Thus again, it suggests the existence of a common organizational culture (Pratici *et al.*, 2023b).

Conclusions

Overall, this paper aims to highlight what being a CMO means within the Italian context and assess the self-perception of CMOs among the whole country. It aims to understand how

CMOs feel their role, how institutional contexts may influence their actions and how the time dedicated to managerial duties impact on their perception. As aforementioned, the literature over this aspect is somehow scarce. This work integrates the paper of Veenstra *et al.* (2017), by proposing a new approach in the definition of the clinician-manager role.

Results suggested that the managerial climate associated with professionals emerges as a key to achieve a positive change, as perceived as a pivotal issue proper of a middle-manager. CMOs are inclined to promote the management of a professional team, and as such, the "Rational approach" appears to be the area that scored the less. This certainly suggests that the indications of the NPM management schools remain poorly understood by professional managers. However, despite this, with a more in-depth analysis, it is possible to appreciate the difference between those who dedicate more time to management: in this case, the area "Rational approach," despite still scoring less than other areas, has a lower gap.

An interesting point can thus be highlighted: the function of the manager is linked to the intensity of commitment. Unfortunately, in the analyses proposed by this paper, it is not possible to assess organizations' outcomes in terms of performances, and therefore it is not possible to connect the perspective on organizational approaches with management results in terms of clinical outcomes. Certainly, considering that more than 50% of clinician-managers (and as such, CMOs) spend more than 50% of their time in doing clinical activities instead of management duties (Pratici *et al.*, 2023b), the difference found in ranking areas offers interesting perspectives, and perhaps a new question may raise: Are we facing a situation where CMOs sometimes forget to be managers and what would the influence of this be on their organizations?

To address this issue, outcome data should be analyzed and combined with responses given by the questionnaire proposed in this research. This, indeed, may be an issue to be addressed in future research.

References

Aini, Q. (2018), "Management skill and leadership: a case study from hospital managers of charity business in health", *The Journal of Social Sciences Research*, Vol. 4 No. 12, pp. 478-482.

Akbulut, Y., Esatoglu, A.E. and Yildirim, T. (2010), "Managerial roles of physicians in the Turkish healthcare system: current situation and future challenges", *Journal of Health Management*, Vol. 12 No. 4, pp. 539-551.

Alonso, J.M., Clifton, J. and Díaz-Fuentes, D. (2015), "The impact of new public management on efficiency: an analysis of Madrid's hospitals", *Health Policy*, Vol. 119 No. 3, pp. 333-340.

Arcà, E., Principe, F. and Van Doorslaer, E. (2020), "Death by austerity? The impact of cost containment on avoidable mortality in Italy", *Health Economics*, Vol. 29 No. 12, pp. 1500-1516.

Arora, S., Sevdalis, N., Suliman, I., Athanasiou, T., Kneebone, R. and Darzi, A. (2009), (2009), "What makes a competent surgeon?: experts' and trainees' perceptions of the roles of a surgeon", *The American Journal of Surgery*, Vol. 198 No. 5, pp. 726-732.

Birken, S.A., Lee, S.Y.D. and Weiner, B.J. (2012), "Uncovering middle managers' role in healthcare innovation implementation", *Implementation Science*, Vol. 7 No. 1, pp. 1-12.

Birken, S., Clary, A., Tabriz, A.A., Turner, K., Meza, R., Zizzi, A., … and Charns, M. (2018), "Middle managers' role in implementing evidence-based practices in healthcare: a systematic review", *Implementation Science*, Vol. 13 No. 1, pp. 1-14.

Brosio, G. (2003), "Moving toward a quasifederal system: intergovernmental relations in Italy", *Journal Des Conomistes Et Des Tudes Humaines*, Vol. 13 No. 4.

Capello, R. (2016), "What makes Southern Italy still lagging behind? A diachronic perspective of theories and approaches", *European Planning Studies*, Vol. 24 No. 4, pp. 668-686.

Carinci, F. (2020), "Covid-19: preparedness, decentralisation, and the hunt for patient zero", *BMJ*, p. 368.

Costa, G., Caiazzo, A., Marinacci, C. and Spadea, T. (2020), "Individual and contextual determinants of inequalities in health: the italian case", *The Political and Social Contexts of Health*, pp. 115-146. Routledge.

Currie, G. and Procter, S.J. (2005), "The antecedents of middle managers' strategic contribution: the case of a professional bureaucracy", *Journal of Management Studies*, Vol. 42 No. 7, pp. 1325-1356.

Della Porta, D. (2014), *L'intervista qualitative*, Gius. Laterza & Figli Spa.

Dopson, S. (1996), "Doctors in management: a challenge to established debates".

Embertson, M.K. (2006), "The importance of Middle managers in healthcare organizations", *Journal of Healthcare Management*, Vol. 51 No. 4, p. 223.

Fanelli, S., Lanza, G., Enna, C. and Zangrandi, A. (2020a), "Managerial competences in public organisations: the healthcare professionals' perspective", *BMC Health Services Research*, Vol. 20 No. 1, pp. 1-9.

Fanelli, S., Bellù, R., Zangrandi, A., Gagliardi, L. and Zanini, R. (2020b), "Managerial features and outcome in neonatal intensive care units: results from a cluster analysis", *BMC Health Services Research*, Vol. 20 No. 1, pp. 1-11.

Fanelli, S., Lanza, G., Francesconi, A. and Zangrandi, A. (2020c), "Facing the pandemic: the Italian experience from health management experts' perspective", *The American Review of Public Administration*, Vol. 50 Nos 6/7, pp. 753-761.

Fanelli, S., Pratici, L. and Zangrandi, A. (2022), "Managing healthcare services: Are professionals ready to play the role of manager?", *Health Services Management Research*, Vol. 35 No. 1, pp. 16-26.

Ferlie, E. and Ongaro, E. (2015), *Strategic Management in the Public Sector: Concepts, Schools, and Contemporary Issues*.

Fitzgerald, L. and Sturt, J. (1992), "Clinicians into management: on the change agenda or not?", *Health Services Management Research*, Vol. 5 No. 2, pp. 137-147.

Forbes, T., Hallier, J. and Kelly, L. (2004), "Doctors as managers: investors and reluctants in a dual role", *Health Services Management Research*, Vol. 17 No. 3, pp. 167-176.

Fulop, L. and Day, G.E. (2010), "From leader to leadership: clinician managers and where to next?", *Australian Health Review*, Vol. 34 No. 3, pp. 344-351.

Garattini, L., Zanetti, M. and Freemantle, N. (2020), "The Italian NHS: what lessons to draw from Covid-19?", *Applied Health Economics and Health Policy*, Vol. 18 No. 4, pp. 463-466.

Ghavamabad, L.H., Vosoogh-Moghaddam, A., Zaboli, R. and Aarabi, M. (2021), "Establishing clinical governance model in primary health care: a systematic review", *Journal of Education and Health Promotion*, p. 10.

Gjerde, S. and Alvesson, M. (2020), "Sandwiched: exploring role and identity of middle managers in the genuine Middle", *Human Relations*, Vol. 73 No. 1, pp. 124-151.

Grey, C. (1997), "Management as a technical practice: professionalization or responsibilization?", *Systems Practice*, Vol. 10 No. 6, pp. 703-725.

Guo, K.L. (2003), "An assessment tool for developing healthcare managerial skills and roles", *Journal of Healthcare Management*, Vol. 48 No. 6, pp. 367-376.

Hilty, D.M., Torous, J., Parish, M.B., Chan, S.R., Xiong, G., Scher, L. and Yellowlees, P.M. (2021), "A literature review comparing clinicians' approaches and skills to in-person, synchronous, and asynchronous care: moving toward competencies to ensure quality care", *Telemedicine and e-Health*, Vol. 27 No. 4, pp. 356-373.

Hyndman, N. and Lapsley, I. (2016), "New public management: the story continues", *Financial Accountability and Management*, Vol. 32 No. 4, pp. 385-408.

Ireri, S.K., Walshe, K., Benson, L. and Mwanthi, M. (2017), "A comparison of experiences, competencies and development needs of doctor managers in Kenya and the United Kingdom (UK)", *The International Journal of Health Planning and Management*, Vol. 32 No. 4, pp. 509-539.

Isfahani, H.M., Aryankhesal, A. and Haghani, H. (2015), "The relationship between the managerial skills and results of 'performance evaluation' tool among nursing managers in teaching hospitals of Iran University of Medical Science", *Global Journal of Health Science*, Vol. 7 No. 2, p. 38.

Kanter, R.M. (2004), "The Middle manager as innovator", *Harvard Business Review*, Vol. 82 Nos 7/8, pp. 1-16.

Karuppan, C.M. (2014), "Employer-based coverage and medical travel options: lessons for healthcare managers", *Journal of Healthcare Management*, Vol. 59 No. 3, pp. 210-222.

Kuhlmann, S. and Fedele, P. (2010), "New public management in continental Europe: local government modernization in Germany, France and Italy from a comparative perspective", in *The Provision of Public Services in Europe*, Edward Elgar Publishing.

Lagravinese, R., Liberati, P. and Resce, G. (2019), "Exploring health outcomes by stochastic multicriteria acceptability analysis: an application to Italian regions", *European Journal of Operational Research*, Vol. 274 No. 3, pp. 1168-1179.

Lapuente, V. and Van de Walle, S. (2020), "The effects of new public management on the quality of public services", *Governance*, Vol. 33 No. 3, pp. 461-475.

Lega, F. and Prenestini, A. (2009), "Medico-manager, medico e manager o management del medico", *Rapporto OASI 2009. L'aziendalizzazione Della Sanità in Italia*, Egea, pp. 437-448.

Lega, F. and Sartirana, M. (2016), "Making doctors manage […] but how? Recent developments in the Italian NHS", *BMC Health Services Research*, Vol. 16 No. S2, pp. 65-72.

Lega, F., Prenestini, A. and Calciolari, S. (2014), "How organziational culture of top management matters in the healthcare sector: Federico Lega", *European Journal of Public Health*, Vol. 24 No. suppl_2, pp. 163-165.

Lega, F., Rotolo, A. and Sartirana, M. (2022), "Dealing with pluralism: the managerial work of CEOs in italian public healthcare organizations", *BMC Health Services Research*, Vol. 22 No. 1, pp. 1-12.

Lindaas, N.A., Anthun, K.S. and Magnussen, J. (2024), "New public management and hospital efficiency: the case of norwegian public hospital trusts", *BMC Health Services Research*, Vol. 24 No. 1, p. 36.

Lindholm, Udén and Råstam (1999), "Management from four different perspectives", *Journal of Nursing Management*, Vol. 7 No. 2, pp. 101-111.

Liu, Y., Zhong, L., Yuan, S. and Van de Klundert, J. (2018), "Why patients prefer high-level healthcare facilities: a qualitative study using focus groups in rural and Urban China", *BMJ Global Health*, Vol. 3 No. 5, p. e000854.

Lopes, A.G., Narattharaksa, K., Siripornpibul, T. and Briggs, D. (2020), "An assessment of management competencies for primary health care managers in timor-leste", *The International Journal of Health Planning and Management*, Vol. 35 No. 2, pp. 520-531.

Marcon, G. and Panozzo, F. (1998), "Reforming the reform: changing roles for accounting and management in the Italian health care sector", *European Accounting Review*, Vol. 7 No. 2, pp. 185-208.

Mark, A. (1995), "Developing the doctor manager: reflecting on the personal costs", *Health Services Management Research*, Vol. 8 No. 4, pp. 252-258.

Marra, M. (2014), "What coordination mechanisms work to manage regional development programmes? Insights from Southern italian regions", *European Urban and Regional Studies*, Vol. 21 No. 3, pp. 254-271.

Mintzberg, H. (1973), *The Nature of Managerial Work*, Harper and Row, New York, NY, ISBN 978-1609949234.

Mountford, J. and Webb, C. (2009), "When clinicians lead", *The McKinsey Quarterly*, Vol. 1.

Mugnai, G. and Bilato, C. (2020), "Covid-19 in Italy: lesson from the Veneto region", *European Journal of Internal Medicine*, Vol. 77, pp. 161-162.

Øvretveit, J. (2000), "Total quality management in European healthcare", *International Journal of Health Care Quality Assurance*, Vol. 13 No. 2, pp. 74-80.

Pappas, J.M., Flaherty, K.E. and Wooldridge, B. (2004), "Tapping into hospital champions-strategic middle managers", *Health Care Management Review*, Vol. 29 No. 1, pp. 8-16.

Pavolini, E. and Vicarelli, G. (2012), "Is decentralization good for your health? Transformations in the Italian NHS", *Current Sociology*, Vol. 60 No. 4, pp. 472-488.

Pratici, L. (2022), *Management Matters: Three Essays on How Health Systems and Organizations Can Improve Their Organizational Performance*, *University of Parma Repository, Parma, Italy.*

Pratici, L., Fanelli, S. and Zangrandi, A. (2023a), "Not only funding: how healthcare organizations can contribute to National Health Service sustainability", *International Journal of Public Administration*, Vol. 46 No. 13, pp. 971-981.

Pratici, L., Francesconi, A., Lanza, G., Zangrandi, A. and Fanelli, S. (2023b), "The managerial role of healthcare professionals in public hospitals: a time-driven analysis of their activities", *BMC Health Services Research*, Vol. 23 No. 1, p. 465.

Putri, L.P., Mawarni, D. and Trisnantoro, L. (2020), "Challenges of shifting diabetes mellitus care from secondary-to primary-level care in urban and rural districts: a qualitative inquiry among health providers", *Journal of Primary Care and Community Health*, Vol. 11, p. 2150132720924214.

Rademakers, J.J., De Rooy, N. and Ten Cate, O.T.J. (2007), "Senior medical students' appraisal of CanMEDS competencies", *Medical Education*, Vol. 41 No. 10, pp. 990-994.

Salvatore, D., Numerato, D. and Fattore, G. (2018), "Physicians' professional autonomy and their organizational identification with their hospital", *BMC Health Services Research*, Vol. 18, pp. 1-11.

Sarto, F., Veronesi, G., Kirkpatrick, I. and Cuccurullo, C. (2016), "Exploring regionalism in public management reforms: the case of the italian hospital sector", *Policy and Politics*, Vol. 44 No. 4, pp. 525-545.

Seren, S. and Baykal, U. (2007), "Relationships between change and organizational culture in hospitals", *Journal of Nursing Scholarship*, Vol. 39 No. 2, pp. 191-197.

Skålén, P. (2004), "New public management reform and the construction of organizational identities", *International Journal of Public Sector Management*, Vol. 17 No. 3, pp. 251-263.

Skela Savič, B. and Robida, A. (2013), "Capacity of middle management in health-care organizations for working with people—the case of slovenian hospitals", *Human Resources for Health*, Vol. 11 No. 1, pp. 1-15.

Skirbekk, H., Hem, M.H. and Nortvedt, P. (2018), "Prioritising patient care: the different views of clinicians and managers", *Nursing Ethics*, Vol. 25 No. 6, pp. 746-759.

Takian, A., Rashidian, A. and Doshmangir, L. (2015), "The experience of purchaser–provider split in the implementation of family physician and rural health insurance in Iran: an institutional approach", *Health Policy and Planning*, Vol. 30 No. 10, pp. 1261-1271.

Terlizzi, A. and Esposito, G. (2023), "New public management reform ideas and the remaking of the Italian and Danish health systems", *Territory, Politics, Governance*, Vol. 11 No. 8, pp. 1649-1668.

Till, A., McKimm, J. and Swanwick, T. (2020), "The importance of leadership development in medical curricula: a UK perspective (stars are aligning)", *Journal of Healthcare Leadership*, Vol. 12, pp. 19-25.

Vainieri, M., Ferrè, F., Giacomelli, G. and Nuti, S. (2019), "Explaining performance in health care: how and when top management competencies make the difference", *Health Care Management Review*, Vol. 44 No. 4, pp. 306-317.

Van der Wal, Z. (2020), "Being a public manager in times of crisis: the art of managing stakeholders, political masters, and collaborative networks", *Public Administration Review*, Vol. 80 No. 5, pp. 759-764.

Van Dooren, W. (2010), "Paradoxes of improving performance management (sytems) in public administration", *EIPAScope*, Vol. 2010 No. 2.

Veenstra, G.L., Ahaus, K., Welker, G.A., Heineman, E., van der Laan, M.J. and Muntinghe, F.L. (2017), "Rethinking clinical governance: healthcare professionals' views: a Delphi study", *BMJ Open*, Vol. 7 No. 1, p. e012591.

Vinot, D. (2014), "Transforming hospital management à la francaise: the new role of clinical managers in French public hospitals", *International Journal of Public Sector Management*, Vol. 27 No. 5, pp. 406-416.

von Knorring, M. (2012), "The manager role in relation to the medical profession", PhD thesis, Karolinska Institutet, Stockholm.

von Knorring, M., Alexanderson, K. and Eliasson, M.A. (2016), "Healthcare managers' construction of the manager role in relation to the medical profession", *Journal of Health Organization and Management*, Vol. 30 No. 3, pp. 421-440.

von Knorring, M., de Rijk, A. and Alexanderson, K. (2010), "Managers' perceptions of the manager role in relation to physicians: a qualitative interview study of the top managers in swedish healthcare", *BMC Health Services Research*, Vol. 10 No. 1, pp. 1-12.

Wallick, W.G. and Stager, K.J. (2002), "Healthcare managers' roles, competencies, and outputs in organizational performance improvement/practitioner response", *Journal of Healthcare Management*, Vol. 47 No. 6, p. 390.

Further reading

Bruzzi, S., Ivaldi, E. and Santagata, M. (2022), "Measuring regional performance in the italian NHS: are disparities decreasing?", *Social Indicators Research*, Vol. 159 No. 3, pp. 1057-1084.

Rosenbloom, D.H., Kravchuk, R.S. and Clerkin, R.M. (2022), *Public Administration: Understanding Management, Politics, and Law in the Public Sector*, Routledge.

Simpson, J. (1994), "Mangement for doctors: doctors and management—why bother?", *BMJ*, Vol. 309 No. 6967, pp. 1505-1508.

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