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Alessandro Lombrano, Silvia Iacuzzi

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Comparing Health System Performance: the Contribution of Management Studies

Alessandro Lombrano
PhD Associate Professor,
DIES, University of Udine,
Italy

Silvia Iacuzzi
Research Fellow, DIES,
University of Udine, Italy

Corresponding Author:

Alessandro Lombrano
DIES – Dipartimento di
Scienze Economiche e
Statistiche, University of
Udine, via Tomadini,
30/a - 33100 Udine, Italy
alessandro.lombrano@uniud.it

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ABSTRACT

At a time of growing expectations and diminishing public resources for healthcare, improving the performance of health systems becomes a crucial issue as well as identifying key challenges and weaknesses.

This paper provides insights into the comparison of health system performance in order to explore on the one hand whether there is any convergence of policy indications and, on the other, how structures and processes of health systems affect their performance. In particular, it sheds light on the contribution that management studies have provided to the appreciation of these core management issues in comparing health system, while identifying important gaps in the literature and sketching out an agenda for future research. The paper develops an informed analysis of published articles on comparing health system performance using a Structured Literature Review. While there are more and more articles comparing health systems, i) few focus on comparing their performance, ii) even less deal with the impact of structures and processes and iii) a limited number was published in management journals. Overall, poor quality data, different methodological approaches and level of analysis have led to inconclusive evidence about the performance of different health systems. Hence, results reveal the need for more management studies on the performance of different health systems, while raising awareness about what constitutes high quality research in comparing them and developing insights for future comparative research.

In un periodo di crescenti aspettative e di diminuzione delle risorse pubbliche per l'assistenza sanitaria, il miglioramento delle prestazioni dei sistemi sanitari diventa un problema cruciale, che richiede l'identificazione delle principali sfide e debolezze. Questo paper cerca di approfondire il confronto tra le prestazioni dei sistemi sanitari al fine di esplorare, da un lato, se vi è una convergenza di indicazioni politiche e, dall'altro, in che modo le strutture e i processi dei sistemi sanitari influenzano le loro prestazioni. In particolare, mette in luce il contributo che gli studi di management hanno fornito all'apprezzamento di questi problemi di gestione fondamentali nel confronto del sistema sanitario, identificando, al contempo, importanti lacune nella letteratura e delineando un'agenda per la ricerca futura. La ricerca sviluppa un'analisi informata degli articoli pubblicati sul confronto delle prestazioni dei sistemi sanitari mediante una revisione della letteratura strutturata. Mentre ci sono sempre più articoli che confrontano i sistemi sanitari, i) pochi si concentrano sul confronto delle loro prestazioni, ii) in numero ancora minore affrontano l'impatto delle strutture e dei processi e iii) un numero limitato è stato pubblicato nelle riviste di gestione. Nel complesso, i dati di scarsa qualità, i diversi approcci

metodologici e il livello di analisi hanno portato a prove inconcludenti sulle prestazioni dei diversi sistemi sanitari. Pertanto, questi risultati rivelano la necessità di ulteriori studi di gestione sulle prestazioni dei diversi sistemi sanitari, aumentando al contempo la consapevolezza di ciò che costituisce una ricerca di alta qualità nel confrontare tra loro tali sistemi e nello sviluppo di approfondimenti per future ricerche comparative.

Keywords: health systems, comparison, performance, management, structures, processes

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1 – Introduction

Healthcare is one of the major items in public budgets (Reibling, 2013) and over 70% of the health-related expenditure in the OECD countries comes from public resources (Varabyova and Müller, 2016). At a time of diminishing public funds and increasing requests for better services, the performance of health systems becomes a critical aspect in order to pursue the so called “triple aim priorities” (Berwick et al., 2008, Perrotti, 2008; Berretta and Crea G., 2019), that is improving population health, containing per capita cost, and improving the patient experience of care. Hence, it is important to compare different systems to draw attention to positive outcomes and policy indications (Papanicolas et al., 2013). Several authors have compared health systems across countries from different points of view, yet they often did not follow the same rigor and methodological approach (Cacace et al., 2013; Papanicolas et al., 2013; Rockers et al., 2012).

This paper explores whether studies comparing health systems provide some conclusions on the better performance of a model with respect to another, or at least whether they provide any common appreciation for the solutions to be adopted in order to rationalize healthcare expenditure (OECD, 2010). Moreover, this article aims to assess any contribution management studies have offered to such comparative debate and in particular whether there is any evidence in the literature that the structural or process characteristics of health systems influence their performance. It is also important to verify whether specific disciplinary approaches and research methods have prevailed over time and what development is desirable for studies on the comparison of the accomplishments of health systems.

In order to explore these issues and shed light on the performance of health systems emerging from comparative studies, a literature review has been performed, following a Structured Literature Review (SLR) methodology (Massaro et al., 2016). This allows current knowledge about the performance of different health systems to be systematized, while at the same time assessing the contributions made by various disciplines and indicating possible knowledge gaps and ways forward for future research.

After a brief outline of its theoretical background, the paper will explain the methodology used and will present the main results which will be discussed in order to delve into the research topics and highlight any practical implications.

2 – Theoretical background

Health systems have been the focus of a vast literature and many empirical studies (Papanicolas et al., 2013; Rockers et al., 2012), so much so that the World Health Organization has published a comprehensive rating of health systems which has triggered an interesting debate on their comparability focusing in particular on: epidemiology, wealth levels, supply systems, and financing (World Health Organization, 2000).

From a management perspective, health systems are complex system which deliver mainly public services through public, private or voluntary providers. They can be compared using a holistic or an analytical approach. Holistic approaches analyze and assess health systems as a whole, i.e. by giving evidence to the performance variables, interactions and synergies that are generated within them and between them and other systems; analytic approaches instead look at health systems as a combination of processes and structures which range from regulations to financing, from power structures to production, from supply chain to transparency and accountability, and so on.

From a regulatory point of view, health systems differ in the way they steer the demand for health services. Some rely heavily on centralized command and control systems (OECD, 2010) through standard-setting and rules such as gatekeeping, that is by requesting that access to diagnostic services, specialist visits and hospitalization is first assessed and prescribed by general practitioners. In other countries regulated market mechanisms, such as fee-for-services or competition driven by user choice and private insurance, play a dominant role. But a growing number of countries rely on a mix of centralized and market mechanisms (OECD, 2010).

As far as funding arrangements are concerned, there are many classifications of health systems. The best known ones differentiate between the Beveridge model, also known as "national health system" where healthcare expenditure is financed by general taxation, the Bismarck model, which is based on compulsory insurance coverage and is also known as "SHI – Social Health Insurance", and the mixed model, where private expenditure, directly or through voluntary insurance, is the main source of healthcare financing (Smith et al., 2012; Thomson et al., 2013). Other classifications are based on the contractual relationships between suppliers and payers, which is another way to interpret the public or private nature of funding (Böhm et al., 2013; Paris et al., 2010).

In terms of power structures, some comparisons of health systems rely on the type of system governance (Progress Consulting Srl and Living Prospects Ltd, 2012) or on the model of welfare state (Chung and Muntaner, 2007). Health systems differ also in how they organize service production and delivery and how they manage their supply chains (Wagstaff et al., 1999). Service provision can be dealt with directly with internal and external suppliers, but it can also be fully contracted out (Munk Poulsen and Rosenberg Hansen, 2017). Optimal choices as well as efficiency and knowledge strategies will depend on minimum volumes, economies of scale and specialization, competition levels as well as R&D efforts, while retaining control of key functions and providing high quality service (Fredriksson et al., 2014; Joumard et al., 2010).

Health system performance is also evaluated with respect to their accountability and transparency through tools to measure corruption (Cimpoeru, 2015; Gupta et al., 2000; Biancone et al., 2018) such as Public Expenditure Tracking Surveys, Quantitative Service Delivery Surveys, Community Score Cards, Community Monitoring and Participatory Budgeting.

While there is a growing body of cross-country comparisons of health systems, there is little evidence and consensus on their performance and it is often mentioned that there is no health system that performs systematically better in delivering cost-effective health care (OECD, 2010). Yet, if not from a holistic point of view, it is paramount to explore at least which factors have contributed to different results and how. Similarly, undeniable is that there is little agreement on the meaning and measurement of performance for health systems. The magnitude of the work required to compare health system performance means that this type of comparison is most often undertaken by large institutions (Forde et al., 2013). The World Health Organization (World Health Organization, 2000) and the OECD (Arah et al., 2006) have developed some multidimensional frameworks which have by no means been universally accepted (Carinci et al., 2015). Hence, this article will look at any contribution which 1) looked at health system outcomes and performance however they were defined and investigated, and 2) took a holistic or an analytical approach. From a management point of view, it is important to understand in

how far structures and processes have contributed to the accomplishments of different health systems.

3 – Methods

In order to analyze comparative studies on the performance of health systems, a structured literature review has been performed (Massaro et al., 2016). This approach differs from traditional narrative reviews since it adopts a systematic, replicable and transparent process like other meta-analyses and systematic reviews. At the same time, when compared to most meta-analysis and systematic review logics, it is better suited to incorporate findings from contributions whose ontology is not positivist or that are based on small samples and have little, if any, quantitative data, because its content analysis method for reviewing literature accepts also qualitative information (Massaro et al., 2016). This makes such a methodology especially suited to public administration and management studies where significant contributions are often made through case studies or ethnographic observations.

A structured literature review methodology (Massaro et al., 2016) follows specific steps:

- Defining the research questions
- Writing a research protocol for the review
- Determining the articles to include and carrying out a comprehensive literature search
- Developing a coding framework including measuring article impact
- Testing the literature review reliability and validity
- Coding the articles using the framework already developed
- Critically analyzing and discussing the results, developing insights and critique as well as future research paths and questions

Therefore, the research questions which were developed at the onset of this research projects are:

- Do studies comparing health systems offer some conclusions on which one leads to a better performance and how?
- Are there common understandings about the solutions to be adopted to rationalize healthcare expenditure?
- Do specific disciplinary approaches and/or research methods prevail on others?
- What contribution have management studies made on this topic over time?
- Is there any evidence in the literature that structural or process characteristics of health systems influence their performance?
- What development is desirable for studies on the comparison of health system performance?

The research protocol established that the review should include articles published in English language between 2007 and 2017 in scientific journals which use peer review for article selection and deal with health issues. An eleven year timeframe was deemed adequate because health systems evolve rapidly (Lewis, 2011; Okma, 2011; Velasco Garrido et al., 2011), because the number, relevance and scientific nature of the contributions has grown since 2007 (Medin et al., 2013; Tenbensen et al., 2012) and because the period from 2007 to 2017 includes the time during which the recent global financial crisis spilled over to the real economy including the health sector. Hence, during this period diminishing public funding for healthcare made improving the performance of health systems a crucial issue (Tapia Granados and Rodriguez, 2015; Wenzl et al., 2017).

In order to focus on scientific publications that use peer review and concern health issues, the journals included in the review were those dealing with health and associated to the "Academic Journal of Quality Guide" published by the United Kingdom Association of Business Schools. This choice is also in line with the research questions and the management topics investigated by the literature review, that is the comparison of the performance of health systems with specific regard to the relationship between structures or processes and outcomes.

Thus, all eight journals concerned with health issues associated to the "Academic Journal of Quality Guide" were included in the review, that is "Health Care Management Review", "Health Policy," "Health Services Management Research", "Health Services Research", "International Journal of Health Care Quality Assurance", "International Journal of Healthcare Technology and Management", "Journal of Health Services Research and Policy", and "Journal of Health, Organisation and Management".

An initial search of potentially relevant articles was carried out using keywords in titles and abstracts in the Scopus database, which includes all selected journals. To draw out a broad range of relevant studies, the search algorithm included broad terms such as "efficiency", "outcome" or "indicators" so as to avoid missing out on contributions which, although comparing health systems, do not clearly indicate it in their title, abstract or keywords. Specific keywords were informed by the seminal work for public management and non-market organizations by Anthony and Young (Anthony and Young, 2003). Eventually the following search algorithm was used: "performance indicators" OR "outcome indicators" OR "efficiency indicators" OR "effectiveness indicators" OR "performance comparison" OR "system comparison" OR "health outcome" OR "health effectiveness" OR "health efficiency" OR ("blame" AND "outcome"). 2.130 contributions were initially selected.

All 2,130 abstracts were read to identify those which focused on the comparison of health systems. According to the initial protocol, a contribution was included in the next steps of the literature review if issues were investigated comparatively from a health system perspective or at subsystem level, in countries where healthcare is managed at regional or provincial level. This was the main selection criterion, regardless of methodology or specific contexts.

Eventually forty-two contributions were successfully screened for further analysis. Only those articles on which two researchers agreed upon were included so to ensure reliability, equivalent to a Krippendorff's α of 1 (Krippendorff, 2013). All of them were read by both researchers and coded according to an ad hoc framework which included the following variables: type of journal, number of citations, relevance, field, research methodology, main findings and specific findings for the relationship between health system performance and its structures/processes (Table 1).

Variable	Categories
Type of journal	Deduced from the declared aim and scope on the journals' websites 1. Management journals (Health Care Management Review, Health Services Management Research, International Journal of Health Care Quality Assurance, Journal of Health, Organisation and Management) 2. Interdisciplinary journals (Health Services Research, International Journal of Healthcare Technology and Management) 3. Non-management journals (Health Policy, Journal of Health Services Research and Policy)
Year	Year of publication
Location	Countries/geographical areas cited in the publication

Citations	Number of citations from Google Scholar, since it considers not only scientific journals but also citations from working papers, conferences and non-strictly academic journals
Relevance	<ol style="list-style-type: none"> 1. Relevant: comparative analysis of the performance of health systems supported by a scientific methodology or conceptual/research papers which deal with the comparison of health systems using a scientific method while not presenting the results of an empirical analysis 2. Partially relevant: comparative evaluation for a specific health sector (that is primary care, hospitals, nursing homes, etc.) or for a specific process within the health system (administration, finance, decision-making, cost containment, etc.), provided that they are carried out following a scientific method at country level (or at regional/provincial level if healthcare provision is organized at that administrative level) 3. Non-relevant: no explicit comparison of health systems, no scientific approach, focus on specific organizations, cities or similar
Field	<p>Following the standard international taxonomy used by the European Research Council (https://erc.europa.eu/)</p> <ol style="list-style-type: none"> 1. Economics 2. Management 3. Political science / sociology 4. Statistics 5. Interdisciplinary
Research methodology	<p>Framework based on Lor's methodological choices (Lor, 2018)</p> <ol style="list-style-type: none"> 1. Comparative research design: many-country comparison, few-country comparison or single-country study; 2. Comparative strategy: variable-oriented or case-oriented; 3. General methodology: quantitative, qualitative or mixed methods
Main findings	Summary of the results of each contribution
Specific analysis	Summary of the relationship between health system performance and its structures/processes

Table 1 – Coding framework

Results were critically analyzed so as to answer the research questions and generate insights, critiques and suggestions for practical implications and future research.

4 – Results

Considering all 2.130 selected abstracts, a first result is that despite the prevalence of management journals in the selection criteria (4 management journals against 2 interdisciplinary and 2 non-management journals), in the last decade articles dealing or at least referring to the comparisons of health system performance were published more in non-management journals (43%) than in journals with a purely managerial stance (33%). The remaining quarter (24%) were published in interdisciplinary journals. In particular, in the last five years non-management journals have published more and more articles comparing health systems, with a decrease in management and particularly interdisciplinary journals (Fig. 1). Management journals have attracted between 30% and 40% of the articles published in any one year with a fluctuating trend showing a peak in 2009 and a dip since 2013.

This phenomenon is partly due to the publication of a special issue on the comparison of health systems in 2013 in *Health Policy*, a non-management journal. This, however, is not enough to explain the persistently increasing trend in the percentage of articles on comparing health system performance published in recent years by non-management journals. There could be many explanations for this trend: on the one hand, management journals could be more selective with publishing contributions on management issues; on the other, they could be becoming less important publication outlets vis-à-vis theme specific journals with no specific disciplinary approach.

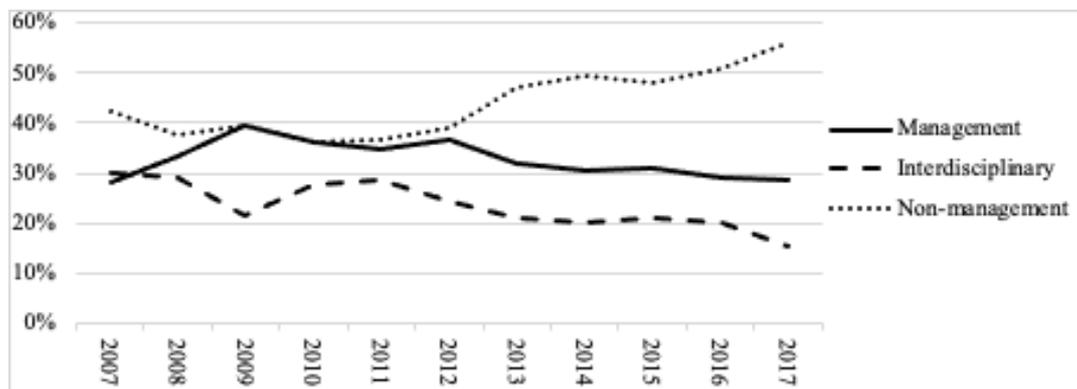


Fig. 1 – Selected abstracts by journal type and year of publication

After reading the 42 screened articles only nine turned out to be “relevant”, that is they deal with the comparison of health systems in terms of performance, while 19 were classified as “partially relevant”, because they compare specific processes, sectors or diseases, and 14 have been dismissed as “non-relevant”. Hence, only the 28 articles classified as “relevant” or “partially relevant” were further analyzed (Table 2).

Article	Relevance	Type of Journal	Citations	Geographical area	Field
Wenzl et al., 2017	Partial	Non-management	1	7 European countries	Pol. Science
Varabyova & Müller, 2016	Relevant	Non-management	8	OECD	Economics
Mackenbach & McKee, 2015	Partial	Non-management	10	30 European countries	Pol. Science
Van der Wees et al., 2014	Partial	Non-management	19	US, NL	Management
Bottle et al., 2013	Partial	Interdisciplinary	25	US, GB, IT, NL, BE	Management
Cacace et al., 2013	Relevant	Non-management	32	Not applicable	Interdisciplinary
Davis et al., 2013	Partial	Non-management	29	New Zealand	Management
Forde et al., 2013	Relevant	Non-management	20	Not applicable	Management
Franken & Koolman, 2013	Partial	Non-management	5	Netherlands	Management
Häkkinen et al., 2013	Partial	Non-management	40	7 European countries	Management

Kiivet et al., 2013	Relevant	Non-management	7	Estonia, Finland, Israel	Management
Medin et al., 2013	Partial	Non-management	23	4 Nordic countries	Management
Moat et al., 2013	Relevant	Non-management	29	Not applicable	Interdisciplinary
Reibling, 2013	Relevant	Non-management	10	OECD	Statistics
Van de Ven et al., 2013	Partial	Non-management	41	BE, DE, IL, NL, CH	Management
Varabyova & Schreyögg, 2013	Partial	Non-management	74	OECD	Economics
Veillard et al., 2013	Partial	Non-management	15	Canada	Management
Viberg et al., 2013	Partial	Non-management	36	23 OECD countries	Management
Perera et al., 2012	Relevant	Non-management	11	New Zealand	Management
Rockers et al., 2012	Partial	Non-management	30	Not applicable	Interdisciplinary
Tenbenschel et al., 2012	Partial	Non-management	20	High income countries	Pol. Science
Maier & Martin-Moreno, 2011	Partial	Non-management	18	Former USSR	Pol. Science
Mathauer & Nicolle, 2011	Relevant	Non-management	22	OECD	Management
Robone et al., 2011	Partial	Interdisciplinary	30	Not applicable	Management
Velasco Garrido et al., 2011	Partial	Non-management	11	Europe	Management
Lenard & Shimshak, 2009	Partial	Management	15	USA	Management
Chung & Muntaner, 2007	Relevant	Non-management	181	OECD countries	Pol. Science
van der Schee et al., 2007	Partial	Non-management	93	DE, GB, NL	Management

Table 2 – Relevant and partially relevant articles by type of journal, citations, geography, field

All 9 “relevant” and most “partially relevant” (16 out of 19) articles were published in non-management journals. Only one “partially relevant” article (Lenard and Shimshak, 2009) was published in a management journal. This confirms the initial finding concerning all 2,130 contributions: articles on comparing health system performance have mostly found space in other journals than management ones.

Moreover, “relevant” and “partially relevant” articles published in non-management journals have more citations on average, hence more impact, than “partially relevant” articles published in interdisciplinary or management journals. Even considering the length of time since publication to control for the opportunity for a paper to be cited, there is no evidence that only the best articles were published in management journals. Though, it cannot be overlooked that the paucity of records dampens the significance of this as well as any analysis carried out on such a small sample.

However, it is interesting to notice that roughly half of the “relevant” and two thirds of “partially relevant” articles follow a management approach, rather than economics, political

science, sociology or statistics. So even though few articles are published in management journals, management as a field is still perceived as important by most authors when comparing health system performance.

From a geographical point of view, most “relevant” and “partially relevant” articles (21 out of 28) refer to OECD countries, while one deals with the former Soviet Union Republics, one with Eastern and Western European countries and the remaining five are conceptual papers or literature reviews without specific geographical reference.

As far as research methods are concerned, records are quite heterogeneous and use a variety of designs, strategies and methodologies. Yet most “relevant” and “partially relevant” articles are quantitative, variable-oriented and many-country comparisons (Table 3).

		Relevant	Partially relevant	Total
Comparative research design	Many-country comparison	5	7	12
	Few-country comparison	1	8	9
	Single-country comparison	-	3	3
	Not applicable	3	1	4
Comparative strategy	Variable-oriented	7	12	19
	Case-oriented	2	7	9
General methodology	Quantitative	4	9	13
	Qualitative	1	5	6
	Mixed	4	5	9

Table 3 – Relevant and partially relevant articles by research methodology

In terms of findings, most literature reviews (Cacace et al., 2013; Medin et al., 2013; Moat et al., 2013; Perera et al., 2012; Reibling, 2013; Rockers et al., 2012; Varabyova and Müller, 2016; Velasco Garrido et al., 2011) highlight the numerous disciplinary approaches and methodologies used to compare health systems, criticizing the limits of certain approaches or proposing new methodologies to assess them.

Only three of the selected articles actually focus on performance when comparing health systems (Chung and Muntaner, 2007; Mathauer and Nicolle, 2011; Varabyova and Müller, 2016). The first of these articles (Chung and Muntaner, 2007) has a strong quantitative component, understand performance in terms of population health and correlates it to a country’s political and government characteristics. It determines that “countries exhibit distinctive levels of population health [...] by welfare regime type. Social democratic countries as a group showed significantly better health status” compared to Christian democratic and Liberal countries (Chung and Muntaner, 2007).

The article by Mathauer and Nicolle is a management variable-oriented contribution with a mixed qualitative and quantitative approach which focuses on performance in terms of healthcare expenditure and aims at assessing the costs of health systems comparing high income to middle and low-income OECD countries (Mathauer and Nicolle, 2011). It establishes that “in high-income OECD countries, the average SSS [social security schemes] administrative costs are 4.2%. Average PHI [private health insurance] administrative costs are about three times higher. The shares are much higher for low- and middle-income countries” (Mathauer and Nicolle, 2011). However, the conclusions concede that “considerable variations across and within countries over time are revealed”, that “the exploration of health insurance administrative costs is restricted through limited data availability and questionable reliability in light of differing

accounting methods” and that “the aim should be to optimize administrative efficiency rather than just lowering administrative costs” (Mathauer and Nicolle, 2011).

The contribution by Varabyova and Müller reviews the literature in order to systematize the findings on performance in terms of the efficiency of health systems in OECD countries (Varabyova and Müller, 2016). It is the only article which offers a systematic analysis of studies which compare health systems. However, it is strongly focused on quantitative elements with an econometric emphasis rather than looking at managerial issues. Moreover and like all others, it does not reach any conclusion regarding which model-type of health systems performs better. Indeed, it concludes that “the qualitative synthesis of the literature indicated large differences in study designs and methods. The meta-analysis revealed low correlations between country rankings suggesting a lack of internal validity of the efficiency estimates. In conclusion, methodological problems of existing cross-country comparisons of the efficiency of health care systems draw into question the ability of these comparisons to provide meaningful guidance to policy-makers” (Varabyova & Müller, 2016: 252).

Similarly, authors who illustrate the results of sector or process analysis do not reach clear conclusions regarding the performance of a health system with respect to others. Some scholars assess the impact on access to healthcare and patient experience of single processes such as qualitative evaluation processes (Van der Wees et al., 2014), others consider the impact of communication processes on performance according to the OECD dimensions (Veillard et al., 2013), others look at regulations processes for competitive markets in healthcare (Van de Ven et al., 2013) or at trust in healthcare institutions (van der Schee et al., 2007). Other authors focus on decision processes such as healthcare reforms whether ex-ante, that is assessing their aims (Wenzl et al., 2017), or ex-post, that is analyzing their effects on performance understood as the effectiveness of a reform in reaching its objectives (Franken and Koolman, 2013; Maier and Martin-Moreno, 2011). Yet, no overall conclusions on the comparisons of the performance of different health systems are reached. “Due to the lack of rigorous evaluations, no conclusions could be drawn on the effectiveness of the reform strands, nor on the effectiveness of specific public health programs” (Maier and Martin-Moreno, 2011)

A few contributions utilize a political science approach and analyze comparatively the effect of specific political dimensions on health issues without any reference to structures or processes. Some authors assess the political agendas in terms of equity, cost containment and outcomes against the political orientation of the governments in office (Tenbensen et al., 2012). Other scholars explore the relationship between the quality and equity of health systems on the one side and the distribution of powers and political representation on the other (Mackenbach and McKee, 2015).

Only eight out of 28 articles point at the importance of explaining health system performance through their structural or process characteristics (Cacace et al., 2013; Mathauer and Nicolle, 2011; Medin et al., 2013; Perera et al., 2012; Robone et al., 2011; Tenbensen et al., 2012; van der Schee et al., 2007; Velasco Garrido et al., 2011). This might be a reason why most “relevant” and “partly relevant” articles were not published in management journals: only less a third took into consideration managerial aspects such as the structure and processes of health systems to explain their performance. Even more importantly, only four among those studies establish a causal effect between such characteristics and health system performance (Mathauer and Nicolle, 2011; Robone et al., 2011; Tenbensen et al., 2012; van der Schee et al., 2007). They appreciate health system performance in different ways (table 4): as population health outcomes and public health concerns (Tenbensen et al., 2012), as the efficiency of expenditure (Mathauer and Nicolle, 2011), as responsiveness (Robone et al., 2011) and as the type and quality of the services delivered to citizens (van der Schee et al., 2007)

Three out of four articles highlight that one of the structural and process characteristics which affects the performance of health systems is its financing (tax-based vs. social insurance), yet no solution unambiguously leads to a better performance: tax-based systems seem cheaper

to run and more concerned about effectiveness, while social-insurance systems seem to focus more on efficiency, but it is not clear whether either system achieves such aims. Other managerial aspects which have an effect on the performance of health systems include regulation and administrative activities, but even in these cases relationships remain rather vague and would need further investigation.

Article	Relationship between performance and structure/process characteristics
Tenbensen et al., 2012	<p>“The key findings are: (i) that improving population health outcomes is more likely to be on the agenda under tax-based systems and when centre-left parties are dominant in government; (ii) health systems funded through social insurance are more preoccupied with efficiency and cost-containment than tax-funded systems; (iii) the political complexion of governments is not a major factor shaping health policy agendas; and (iv) since 2003 there has been an increasing interest in initiatives that address public health concerns, access and equity, and population health outcomes.”</p>
Mathauer & Nicolle, 2011	<p>“Seven explanatory factors explain variations in performance: health financing system aspects, administrative activities undertaken, insurance design aspects, context factors, reporting format, accounting methods, and management and administrative efficiency measures.”</p> <p>“In particular, more detailed reporting of administrative costs would enhance comparability and provide benchmarks. Improved administrative efficiency could free resources to expand coverage.”</p>
Robone et al., 2011	<p>“Responsiveness of health systems [is related to] environment, characteristics of the population and access/health service utilization [...] Environmental characteristics can be stratified in three broad groups: (i) resources, (ii) health system characteristics, and (iii) institutional factors which correspond to the role that health policy plays in setting the context for health care organization and delivery.”</p>
van der Schee et al., 2007	<p>“Health service provision, in terms of the package of services that people can claim, is much more regulated by law in Germany compared to England and Wales and The Netherlands. [...] regarding the availability of care, numbers of physicians and hospital beds per head are much higher in Germany compared to The Netherlands and England and Wales. The latter two countries are known for having problems with waiting lists.”</p>

Table 4 – Relationship between health system performance and structure/process characteristics

5 – Discussion

Even though many studies have been recently published on health systems (Papanicolas et al., 2013; Rockers et al., 2012), overall the articles which have compared their performance are few, at least within the journal selection used for this research. One reason for this paucity maybe the

complexity of looking at a health system in its entirety (Forde et al., 2013). A few more comparative studies focus on specific processes, sectors or diseases. Yet, “there is a need for information at the system level. As policymakers and national stakeholders govern health systems as a whole and are held accountable to their overall performance, they require comparative information to determine what is working in their system, where there is room for improvement and what are successful policies in other countries” (Reibling, 2013).

Another reason for the small number of comparative articles on health system performance in the last decade could be that a shared methodology for researching health system performance is missing. On the one hand, it is true that “international organizations (WHO and OECD among others) have stressed the importance and potential of performance comparisons and have introduced various types of performance measures in their frameworks” (Kiivet et al., 2013: 111). On the other hand, “efforts and output remain of uneven quality. Inappropriate focus on isolated indicators, without a clear understanding of the methodological issues and inherent limitations underpinning them, or of the wider historical and policy context within which indicators should be interpreted, may lead to serious misconceptions and erroneous policy decisions” (Forde et al., 2013). Moreover, “key performance measures (such as cost-effectiveness) in international context requires patient-level data and sufficiently long follow-up periods. However, there are not much studies, experience or practical guidance how to use the national health service databases and data systems to solve the methodological issues in such exercises” (Kiivet et al., 2013: 111). Only some generic quality criteria for cross-country comparisons have been identified such as the need for contextualized comparisons (Papanicolas et al., 2013) and for “appropriate use of theory, explicit selection of comparator countries, rigor of the comparative design, attention to the complexity of cross-national comparison, rigor of the research methods, and contribution to knowledge” (Cacace et al., 2013). On the contrary, different levels of analyses, methodological approaches and viewpoints have led to inconclusive evidence about the performance of different health systems (Rockers et al., 2012; Cacace et al., 2013; Varabyova & Schreyögg, 2013).

With such limitations, comparative studies have offered no shared conclusion on the greater achievements of one system compared to others. Some evidence suggests that tax-based systems are cheaper in certain aspects, but there is no evidence that they are more efficient overall. The analysis has not allowed to infer the superiority of a health system model with respect to the others, nor do the geographical location, the social welfare level or other system variables seem to be relevant at explaining different performance levels. Therefore, with respect to the research questions, it can be argued that there is no health system model-type that offers a better performance. Similarly, there is no shared appreciation in the literature for solutions to rationalize healthcare expenditure and enhance performance.

When comparing health systems, a variety of disciplinary approaches as well as research methodologies have been used. In this context, studies with a management approach are comparatively significant both in numerical terms and in terms of impact, even if they appear in journals that do not focus exclusively on management issues.

Findings from these articles reveal that many scholars complain about the lack of methodologically robust evidence for the performance of health systems. Few offer a systematic comparative analysis, which in most cases follows a quantitative approach across many countries. On the one hand, this has the merit of processing and synthesizing a large amount of data through input-output models, but it does not allow to explain the variability within the results through the structural or process specificities of each system.

Moreover, the literature often deals with particular aspects of structure and processes without necessarily comparing them but focusing on purely conceptual aspects. Only in very few cases has a relationship of cause and effect between system characteristics and performance been investigated, but the paucity and the limitations of such contributions do not allow broader conclusions.

6 – Final remarks and implications

With an increasing interest in assessing health system performance in comparable ways across a number of dimensions, this article has corroborated the need voiced by several scholars for the refinement of the performance measurement for health systems (Davis et al., 2013; Velasco Garrido et al., 2011), for the definition of criteria for high quality research (Cacace et al., 2013; Velasco Garrido et al., 2011) and for systematic literature reviews of health systems and their performance (Cacace et al., 2013; Papanicolas et al., 2013).

The number of scholars who have opted for a managerial approach indicates that a management perspective is important for the analysis of health systems in a comparative fashion. However, if a holistic approach is too complex, then an analytical one might be recommended. It could relate differences in performance to within-structure and inter-structure processes as well as to governance issues. Given the complexity of health systems, a possible outlook might be a better appreciation for structural or process variables in order to relate them to system performance and its variability.

It is also desirable that health management journals welcome more rigorous comparisons of health systems. No less important is, however, the identification of comparable case studies in emerging and developing countries, so as not to limit further investigations to OECD countries.

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