



**China's healthcare costing in times of crisis: conflicts, interactions and hidden agendas**

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## China's healthcare costing in times of crisis: conflicts, interactions and hidden agendas

### Abstract

This paper presents a longitudinal interpretive case study on the development of healthcare costing in China over the period 2002 to 2015. Adopting a middle-range theory lens, the study explores dynamic interactions in the use of cost information among societal institutions and organizations. It reports the successful internalization of costing systems in public hospitals in Beijing, which supports the effectiveness of a hybrid steering mechanism combining both transactional and relational features; however, such successful internalization does not indicate the success of steering the lifeworld of institutions and organizations towards change. Notably, hospitals' responses to steering alter over time, from passive absorption to active manipulation, revealing how cost information may underpin hospital beliefs in marketization. At an institutional level, the paper provides empirical evidence for relational steering among societal institutions, where a reaction of 'rebuttal' is observed. It offers insights on how accounting can be a powerful tool in legitimizing such rebuttal, while keeping political considerations as hidden agendas. The findings suggest the importance of understanding lifeworld complexity at both societal and organizational levels, and cross-institutional collaboration in using accounting as a steering mechanism. The findings have important policy implications for public sector reform, both in China and worldwide.

**Keywords:** healthcare, China, costing, steering mechanism, middle-range theory.

## INTRODUCTION

The healthcare sector worldwide is in crisis, with the challenges of aging populations, escalating health expenditure and increasingly constrained resources (World Bank, 2016). Market-like structures and private-sector management styles have been promoted internationally as important strands of New Public Management to address these emerging challenges. While the overall success of such public-sector reforms is debatable (Hyndman and Lapsley, 2016; Hyndman and McKillop, 2018), they have been criticized for failing to solve the healthcare crisis (Kurunmaki, Lapsley and Melia 2003; Lapsley, 2009).

Within such a complex and dynamic environment, cost information in healthcare becomes increasingly important, not merely for cost management, but also to inform payment system reforms that may incentivise the delivery of effective and efficient care (Chapman, Kern and Laguecir, 2014). Studies have shown that trends towards using diagnosis-related grouping (DRG) or activity-based costing (ABC) in hospitals have facilitated financial control and helped reduce or absorb uncertainty (Chapman and Kern, 2010; Jacobs, Marcon and Witt, 2004). However, there is scant research on the relationship between wider contexts and costing practices in the healthcare sector, in particular on how different healthcare system players use cost information.

Facing the same financial crisis in healthcare as the rest of the world, China began market reforms during the 1990s to promote public hospital autonomy through corporatization, for their financial survival. These reforms exacerbated affordability issues and motivated autonomous hospitals to deviate from social objectives, favouring high-profit-margin services (Blumenthal and Hsiao, 2015; Yip et al., 2012). This triggered open debate on the status of public hospitals in the early 2000s and subsequently the New Healthcare Reform (NHR) in 2009, aiming to re-prioritize social welfare in the sector.

Within this context, a costing system for public hospitals in Beijing was developed to promote change during these two eras of reforms. Intriguing questions are how this occurred within such a complex and dynamic environment; how government bureaus and public hospitals interacted and responded to the development; and what

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3 potential lessons can be learnt from its successes or failures. Such questions, alongside  
4 their theoretical and practical implications, remain unexplored.  
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7 Adopting a two-stage, dual-researcher, ethnographic approach, this study  
8 examines the costing system developments for public hospitals in Beijing between 2002  
9 and 2015, the two aforementioned reform periods. It investigates the dynamic  
10 interactions among government bureaus and public hospitals in Beijing, casting light on  
11 the relevance of accounting practice to wide-ranging interests in society.  
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15 The study applies a middle-range theory (MRT), which arose out of Habermas'  
16 societal development model and was then promoted by Broadbent, Laughlin and Read  
17 (1991). The MRT describes modern society as an amalgam of so-called 'lifeworlds',  
18 'steering media' and 'systems'. Lifeworlds are communicatively-comprised life  
19 experiences and beliefs which guide attitudes, behaviour and action. Societal systems,  
20 namely society's economic and administrative organizations, are guided to follow such  
21 lifeworld concerns. A steering medium, such as a government or professional institution,  
22 utilizes various 'steering mechanisms' to ensure that societal systems are aligned with the  
23 demands and expectations of the societal lifeworld. Accounting is such a mechanism.  
24 Steering media and systems, however, may 'get a life of their own' as society grows in its  
25 complexity. Inter-organizational steering in the public sector often creates external  
26 disturbances not necessarily in line with the core values of organizations and, therefore,  
27 may attract resistance (Broadbent and Laughlin, 2013).  
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38 This paper examines the role of accounting in promoting change from the  
39 viewpoint of societal institutions. We explore the idea of viewing costing systems as a  
40 steering mechanism to promote change, while the lifeworlds<sup>1</sup> of society, institutions and  
41 organizations are complex and dynamic, and reflect a crisis situation. This allows us to  
42 examine the dynamic interactions of societal institutions and organizations and the way in  
43 which the evolution of the societal lifeworld affects such interactions.  
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48 Our contributions are threefold. Firstly, we enrich the MRT by extending its  
49 application to the societal and organizational level in an emerging economy. Our  
50 ethnographic approach helps us generate in-depth insights into interactions not only  
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54 <sup>1</sup> Some previous studies use 'interpretive scheme' for organizational lifeworld, to  
55 distinguish it from societal lifeworld. We use societal lifeworld and organizational lifeworld in  
56 this paper to retain simplicity in the use of the terminology.  
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3 between steering media and societal systems, but also among the steering media within  
4 the dynamic and complex context of China's healthcare reforms.

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7 Secondly, this paper extends studies on the broader role of accounting. Previous  
8 studies adopting an MRT lens have mainly focused on organizations and intra-  
9 organizational changes (e.g. Agrizzi, 2008; Broadbent et al., 1991; Broadbent et al.,  
10 2013; Kurunmaki et al., 2003; Oakes and Berry, 2009; Campanale and Cinquini, 2016;  
11 Fiondella et al., 2016). Taking an inter-organization steering perspective, this paper  
12 contributes to the literature on the broader role of accounting and goes beyond  
13 organizational and managerial concerns about enhancing performance (Modell, 2014). It  
14 also responds to calls for further research on the responses of different healthcare system  
15 players to emerging costing practices (Chapman et al., 2014).

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18 Thirdly, focusing on the (in)effectiveness of costing as an inter-organizational  
19 steering mechanism, the insights generated into what affects the success of steering (or  
20 otherwise) have practical implications for public sector reforms worldwide.

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23 The paper is organized into six sections. The following section provides the  
24 background. Section 3 presents the theoretical framework, followed by the research  
25 methods in Section 4. Section 5 presents the findings, while Section 6 discusses these  
26 findings and concludes with recommendations for future research.

## 27 28 29 30 31 32 33 34 35 36 **CONTEXT: CHINA'S SOCIETAL EVOLUTION FROM** 37 **MARKETIZATION TO RE-EMPHASIZING SOCIAL WELFARE**

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40 The Chinese government was under financial pressure to support public hospitals  
41 when it embarked on its late-1970s economic reforms (World Bank, 2010). General  
42 economic reform successes were followed by specific healthcare sector reforms from the  
43 mid-1980s, with a focus on reducing the sector's financial burdens on government  
44 budgets. A series of reform schemes were initiated by the Ministry of Health (MoH) and  
45 the State Council from 1985, aiming to transform public hospitals into profit-seeking  
46 entities by introducing market mechanisms (Blumenthal and Hsian, 2015). Alongside the  
47 artificially low prices for basic medical services set by government under the 'fee-for-  
48 service' payment system, public hospitals were granted permission to charge for high-  
49 technology tests and sell drugs at profit in order to survive financially. They were granted  
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3 autonomy to generate, retain and manage profit (Yip and Hsiao, 2009; Fu et al., 2017).  
4 Bonus schemes were introduced; performance-related remuneration was used to motivate  
5 physicians to optimise revenue (Blumenthal and Hsian, 2015). Consequently, over-  
6 prescription of drugs and overuse of diagnostic tests became widespread. With a sharp  
7 fall in government funding of public hospitals from 60 percent in the late 1970s to just 10  
8 percent by the end of the 2000s (World Bank, 2010), ‘*Kan bing nan, kan bing gui*’  
9 (‘getting medical care is difficult and expensive’) became a popular phrase, referring to  
10 the problems of affordability and accessibility in China’s healthcare system (Yip et al.,  
11 2012). The financial crisis thereby developed into a critical social crisis.

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19 The 2003 SARS outbreak spurred debate and consequent review of the functions  
20 and governance in Chinese public hospitals. China’s healthcare system reforms were  
21 abruptly deemed to be largely unsuccessful, by the Development Research Centre of the  
22 State Council, in their July 2005 internal report. Since then, adjustments to hospital  
23 governance and management, termed ‘New Healthcare Reform’ (NHR), have been  
24 implemented to re-emphasize the status of public hospitals as social welfare institutions  
25 delivering a public good (Yip et al., 2012).

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31 In particular, the government encouraged trials of various provider payment  
32 mechanisms, demanding more intensified expenditure control in public hospitals (Yip et  
33 al., 2012; Fu et al., 2017). The first guide on cost measurement methods for public  
34 hospitals in Beijing was issued in 2002, driven by marketization reform. The costing  
35 system was fully established in 2009 at the start of the NHR era. The significant events  
36 related to costing system development in Beijing are summarized in Figure 1.

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*Please Insert Figure 1 about here*

## THEORETICAL FRAMEWORK

The theoretical framework for this study is the MRT (Broadbent et al., 1991), which conceptualizes modern societies as an amalgam of three key elements: ‘lifeworld’, ‘societal systems’ and ‘societal steering media’. Steering media use ‘steering

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3 mechanisms' to regulate a system and align it with lifeworld requirements. The notion of  
4 steering within the research context is depicted in Figure 2.  
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10 The MRT proposes a basic 'skeletal' model of complex interactions among  
11 different elements of society at both societal and organizational levels. At the societal  
12 level, the essence of these interactions is the attempts of societal steering media to control  
13 the behaviour of organizational systems, using a variety of 'steering mechanisms'. These  
14 include laws, accounting processes, power and money, to ensure that organizations reflect  
15 current lifeworld expectations and demands (Broadbent et al., 1991).  
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20 A steering mechanism can be transactional or relational (Broadbent and Laughlin,  
21 2013). With transactional steering, the steering institutions specify the outputs and  
22 outcomes desired from the systems; they may also specify the means to achieve these  
23 ends. This is akin to the regulatory relationship inherent in a contract to undertake a  
24 particular project over a defined period. Previous literature has suggested that  
25 transactional steering may achieve its societal goals through the forces of law and  
26 funding (Agrizzi et al., 2016; Fiondella et al., 2016).  
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33 Relational steering, on the other hand, is formed through negotiation and  
34 communication between steering institutions and organizations. It is less prescriptive on  
35 the short-term specifications of the ends to be achieved, or the means to be deployed.  
36 Instead, relational steering mechanisms place more emphasis on long-term and  
37 sustainable ongoing relations.  
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41 Most steering mechanisms combine diverse transactional and relational elements,  
42 existing somewhere along a continuum of possibilities, with the pure forms of  
43 transactional and relational steering at each extreme (Broadbent and Laughlin, 2013).  
44 Moreover, transactional steering does not always operate purely in a 'command and  
45 control' manner, because the means or processes in working towards the goals required  
46 by regulations may be underpinned by shared values (Agrizzi *et al.*, 2016).  
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52 To organizations, steering mechanisms often reflect societal requirements  
53 embedded in regulations. Yet this does not imply that those organizations with 'a life of  
54 their own' will comply. The requirements may be resisted if discordant with  
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3 organizational needs or values. The responses of an organization can follow different  
4 pathways. These include (1) 'rebuttal' – rejecting the steering without affecting either the  
5 lifeworld or tangible sub-systems; (2) 'reorientation' – giving an appearance of change,  
6 but the lifeworld remains unchanged; (3) 'colonization' – disturbance being imposed on  
7 the structures and sub-systems with a clear intention to spur change in the lifeworld; and  
8 (4) 'evolution' – disturbance leading to a process of discourse among stakeholders,  
9 ultimately altering the current lifeworld (Broadbent and Laughlin, 2013). Rebuttal and  
10 reorientation do not involve changes to organizations' lifeworld, while colonization and  
11 evolution involve changes to their underlying lifeworld, either through coercion  
12 (colonization) or by agreement (evolution).  
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20 The use of accounting as a steering mechanism to penetrate and alter the core  
21 values of professionals in healthcare and other non-profit organizations has been  
22 critically investigated (e.g. Broadbent et al., 1991; Jacobs et al., 2004; Oakes and Berry,  
23 2009; Oakes and Oakes, 2016). For example, some researchers have provided evidence  
24 on accounting colonization in arts organizations (Oakes and Oakes, 2016) and education  
25 institutions (Oakes and Berry, 2009). However, some recognize that healthcare services  
26 are an area where accounting control is rarely accepted with enthusiasm (Broadbent and  
27 Laughlin, 2013).  
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34 Reorientation is suggested to be the most common response to external  
35 regulations as it is rare for organizations to rebut external steering successfully,  
36 particularly when it is transactional (Agrizzi et al., 2016; Broadbent and Laughlin, 2013).  
37 Reorientation can be achieved through absorption or boundary management. In the  
38 absorption situation, a specialist group is created within an organization to cope and deal  
39 with the disturbances while the main organizational activity continues. With the boundary  
40 management form of reorientation, a selected group of senior managers leads changes in  
41 the daily activities, while the lifeworld of the organization is protected from change  
42 (Broadbent and Laughlin, 2013).  
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50 Researchers extended Broadbent and Laughlin's work by providing empirical  
51 evidence to support the identified pathways or suggest new types of pathway (e.g. Oakes  
52 and Berry, 2009; Agrizzi et al., 2016; Fiondella et al., 2016; Campanale and Clinquini,  
53 2016). Agrizzi et al. (2016) demonstrated how Iranian hospitals followed a reorientation  
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3 pathway in introducing an accreditation control system. This was through both  
4 conformity and resistance. The hospitals conformed with requirements, not only because  
5 of the compulsory nature of transactional steering, but, more importantly, due to shared  
6 religious values. While there may have been organizational changes, the core values in  
7 caring for people's health were protected from the intrusion. In a similar vein,  
8 highlighting that previous studies had mainly focused on the results of steering with  
9 limited attention to the roles of multiple actors in the steering process, Campanale and  
10 Clinquini (2016) investigated the interaction between clinicians and government  
11 controllers in the context of introducing a regional performance measurement system in  
12 Italy. They observed reciprocal influence from both sides; indeed, clinical culture was  
13 allowed to impact on the control system design. As this approach helped to achieve the  
14 objectives of the government as steering media, the researchers identified it as reciprocal  
15 colonization.

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17 While previous studies have provided rich empirical insights, they have mainly  
18 focused on the introduction of control systems with concomitant changes in healthcare  
19 provider practice, but with limited attention to the impact of accounting information on  
20 other actors or organizations in the wider context (Chapman et al., 2014). The  
21 interactions among different elements of society (e.g. different societal institutions) over  
22 the use of such information are under-researched. Our empirical context of costing  
23 system development provides an ideal research opportunity to address the gaps in  
24 previous studies. It allows us to reflect on the potentially wide impact of accounting, as  
25 cost information is not only important for hospital management and societal healthcare  
26 efficiency, but also relevant to payment reforms and pricing decision-making. The MRT  
27 in being 'middle range' is a theory that can inform – but also be informed by – empirical  
28 cases. This is particularly suitable for our case study within a complex and dynamic  
29 emerging economy. The MRT provides a conceptual lens through which intra- and inter-  
30 organizational accounting controls as well as the interactions among institutions and  
31 organizations can be examined.

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## RESEARCH METHODS

We undertook a longitudinal interpretive study on the development of a costing system for public hospitals in Beijing, China, over the period 2002 to 2015. A two-stage, dual-researcher, ethnographic, case study approach was adopted.

### The rationales of case selection

Beijing was chosen for three reasons. Firstly, its development of costing systems for public hospitals, as a pilot in China, began in 2002, providing the period length required for our processual study. Secondly, Beijing as the capital is ideal for studying the dynamic interactions among institutions and organizations in terms of the use of steering mechanisms. Change in Beijing's healthcare sector characterized the complex context of China's sector reforms and ensuing crisis (Yip et al., 2012). It allowed more intimate observation of the role of political sensitivity in the change process. Thirdly and practically, access to the research site, which we were able to secure, was important.

Twenty-one public hospitals in Beijing were accountable to different municipal bureaus for different tasks, as shown in Figure 3. Following the governance structure at national level, the Municipal Health Bureau (MHB) held responsibility for the population's health in Beijing and had administrative power over public hospital management. In addition, various bureaus had powers to allocate public and insurance funds, to set prices and payment methods, and to decide on human-resource allocation and capital investment. The development and implementation of the costing system in Beijing's public hospitals was jointly led by the MHB and the Municipal Bureau of Finance (MBF), with the Accounting Centre within MHB as a working unit.

*Please Insert Figure 3 about here*

### Two-stage, dual-researcher, ethnographic approach

Procedurally, the ethnographic method involves a sustained period of intimate residence and study in a well-defined community, employing intensive, face-to-face participant interaction and observation (Gioia and Chittipeddi, 1991). Rather than theory driving the data collection, such a study initially undertakes a first-stage analysis akin to journalistic narrative. This provides for rich and in-depth portrayal of a way of life that

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3 can then be understood outside and inside the community. Only later does it attempt to  
4 derive an explanatory framework to place the study into a theoretical perspective, by  
5 means of a second-stage. We conducted the first-stage study from 2002 to 2014 and the  
6 second-stage study from 2014 to 2016.  
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10 During the first stage, the first author acted as an ‘insider’, working as the finance  
11 advisor to the MHB. He was directly involved in developing the costing system for  
12 public hospitals in Beijing among other related activities. This included acting in a  
13 consultant capacity in developing the ‘Guide on Hospital Cost Measurement Methods’,  
14 from the initial draft to the updated versions, as well as training hospital managers,  
15 accountants and others. The details of the activities are outlined in Appendix 1. They  
16 provided opportunities for close observation and participation in the community under  
17 study.  
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24 Given the insider researcher’s immersion in the data, concerns arose over  
25 partiality or becoming ‘native’ and losing the dispassionate perspective required for  
26 scholarship (Gioia and Chittipeddi, 1991). To address such concerns, the second author –  
27 thus far unexposed directly to the subjective experiences – was designated as an  
28 ‘outsider’ researcher. The regular reflective communication between the outsider and  
29 insider, to share meaning on ‘what was actually going on’, provided more objective view.  
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34 Narrative notes were constantly recorded. The core themes emerging during this  
35 stage included: (1) the existence of multiple, yet not always compatible values and beliefs  
36 in the lifeworld at societal and organizational levels; (2) the involvement of different  
37 societal institutions and hospitals in the costing development process; and (3) the  
38 dynamic intentions in the use of cost information, both in hospitals and more widely. This  
39 informed the on-going development of the MRT framework and also helped identify the  
40 informants to select for data collection and analysis at second-stage.  
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46 The second-stage moved to a more theoretical level, guided by the preliminary  
47 framework illustrated in Figure 2. The data was collected primarily through 24 semi-  
48 structured interviews and two focus groups, with informants derived from the  
49 government bureaus and two case hospitals. Details are provided in Appendix 2. A semi-  
50 structured questionnaire was used for the interviews, focusing on the themes identified at  
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3 first stage<sup>2</sup>. The interviews ranged from 40 to 120 minutes, with a median of 75 minutes.  
4 They were conducted face-to-face, recorded and transcribed. After this data collection,  
5 the focus groups were organized, guided by the interview questionnaire but centring more  
6 on participant interactions. These not only offered deeper insights on the specific  
7 emerging themes, but also allowed the researchers to discuss and confirm the initial  
8 findings with the groups. Secondary archival data was also collected, including internal  
9 documents from the hospitals and relevant institutions, and publicly available reports,  
10 newspaper and magazine articles, and TV programmes, among others.

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12 This second-stage data analysis searched for patterns in the reactions towards  
13 costing system development and the use of cost information. Driven by the realities of  
14 involving multiple institutions and organizations, we adopted data analysis approaches  
15 recommended by Eisenhardt (1989). First, we conducted within-case analysis, organizing  
16 and examining the data for each institution and organization, including the MHB, MBF,  
17 Development and Reform Committee (DRC), and two case hospitals. The interview  
18 quotes reflecting the themes that had emerged from the first-stage research were  
19 identified and categorized for each case. This gave evidence for each institution and  
20 organization as a stand-alone entity. Second, coupled with within-case analysis, cross-  
21 case analysis was undertaken to search for patterns. The scripts crossing cases, but  
22 relating to the same theme or event, were re-grouped and compared. This procedure  
23 enabled us to identify the interactions between the entities, and also enabled data  
24 triangulation. Finally, the emergent themes were compared systematically with evidence  
25 from within-case and cross-case analyses. Additionally, we made sense of our interview  
26 data in the context of other archive data. The informants were contacted by phone or  
27 email to verify or supplement data when any ambiguity arose during the analysis.  
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## 46 **COSTING AS A STEERING MECHANISM: DYNAMIC** 47 **INTERACTIONS** 48

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50 There was no proper costing system in China's public hospitals prior to the 1990s.  
51 The MHB issued its first 'Hospital Cost Measurement Methods' guide for public  
52 hospitals in Beijing in 2002. This promoted unit-based costing, to help calculate the full  
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56 <sup>2</sup> A full version of the interview questionnaire is available on request.  
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3 healthcare cost of each unit. The system was fully implemented by 2005 and then further  
4 developed and upgraded, as shown in Figure 1. It has been able to provide detailed  
5 information to support cost and profitability analysis for service items, hospitals and  
6 cross-hospital comparisons since 2009. The MHB's focus then shifted towards promoting  
7 the use of cost information. Adopting an MRT lens and taking the government bureaus as  
8 'steering media', the hospitals as 'societal systems', and costing as a 'steering  
9 mechanism', the following insights were revealed from the investigation covering the  
10 period 2002 to 2015.  
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### 17 **The hybrid of multiple transactional and relational steering**

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19 The costing system development in Beijing was top-down: it was promoted and  
20 facilitated by two government bureaus, the MHB and MBF, which was a unique  
21 institutional arrangement. As part of the public hospital reforms of pursuing  
22 autonomization and corporatization in the 1990s, the Ministry of Finance (MoF) issued  
23 the first set of accounting and finance regulations for China's public hospitals in 1999.  
24 These provided guidance on establishing essential accounting and financial management  
25 systems. Their issue was a milestone in public hospital administration, as it was the first  
26 time Chinese public hospitals were obliged to measure revenue, cost and surplus/deficit,  
27 and were expected to 'enhance economic performance'.  
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34 As the MHB had a legitimate regulatory role in public hospital management, it  
35 was within their territory to steer the implementation of these 1999 regulations. However,  
36 the regulations did not provide specific guidance on costing. To the MHB, developing the  
37 first guide on cost measurement methods was initially a means to address the 1999  
38 regulations' deficiencies. Hence, the steering power of the MHB arose directly out of its  
39 regulatory role.  
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45 However, the MHB's regulatory role and its consequent steering power were  
46 hindered by hospitals' managerial autonomy, established through marketization reforms.  
47 Aiming to strengthen its steering power, the MHB invited the MBF to jointly lead the  
48 costing project, as the MBF had the power to allocate fiscal resources to compensate  
49 hospitals' losses resulting from distorted pricing. Given the revenue-based bonus system  
50 and autonomy in managing surplus revenue, hospitals had a strong incentive to bargain  
51 for fiscal compensation, in which cost was an important consideration. Under these  
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3 circumstances, participating in a government-led costing project was perceived as  
4 beneficial by the MBF to reduce the information asymmetry in their compensation  
5 decision-making. Hence, joint leadership of the MHB and MBF introduced strong  
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7 ‘transactional’ steering, through regulation and funding within the steering mechanism.  
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10 Furthermore, despite being government-led, the development and implementation  
11 of the costing system were supported by the professionals, emphasizing the long-term,  
12 sustainable development capability of the hospitals. As a working unit within the MHB  
13 and with a professional leadership role in developing hospitals’ accounting systems, the  
14 MHB Accounting Centre took charge of costing system design, and worked closely with  
15 the hospitals on its implementation. A six-week task force, including the accounting and  
16 IT experts from the MHB Accounting Centre, was delegated to each hospital. Their tasks  
17 included training hospital accountants on the costing system operation, and hospital  
18 directors and finance managers on the use of cost information. More importantly, they  
19 assisted each hospital to establish a steering group, with the hospital president as leader  
20 and involving all departmental heads. Two accountants at hospital level and one in each  
21 department were designated with specific responsibility for costing. This ensured not  
22 only the successful implementation of the costing system, but also the success of the  
23 subsequent on-going operations after they had been withdrawn. Executed through  
24 collaboration between the steering media (the MHB Accounting Centre) and the systems  
25 (hospitals) with an emphasis on long-term, sustainable relations, this steering indicated a  
26 ‘relational’ feature.  
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39 Strong transactional steering from the MHB-MBF joint leadership, together with  
40 relational steering through the professional support, formed a steering hybrid, which  
41 helped to internalize the hospitals’ costing systems. However, such internalization does  
42 not necessarily indicate steering success in the way the steering media intended. Further  
43 investigation on the use of cost information shed light on the complex nature of steering.  
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### 49 **The use of cost information in hospitals – evolving responses**

50 From the viewpoint of MHB and MBF informants, cost information was neutral  
51 and instrumental, and therefore relevant to any actors in the healthcare sector, regardless  
52 of their beliefs and values. They emphasized that the aim of steering was to enhance the  
53 cost-effectiveness of healthcare by improving cost control and assisting resource  
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3 allocation. This remained the same regardless of the reform era. As the MHB director  
4 (informant A)<sup>3</sup>argued: ‘Either for marketization or social welfare, cost effectiveness in  
5 healthcare has always been important.’ However, our study showed that the attitudes of  
6 public hospitals to the imposed costing systems were considerably more complex and  
7 dynamic.  
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11 During the marketization reform era, although hospitals were motivated to pursue  
12 profit, cost control was not actually relevant to their profitability. The retrospective ‘fee-  
13 for-service’ payment system employed from the 1980s to the late 2000s allowed hospitals  
14 to add a mark-up on drugs, so their profitability was affected by the volume of medical  
15 care rather than cost. There was no economic motive for hospitals to implement the  
16 costing system. However, they could not rebut it, due to the transactional nature of the  
17 steering through regulation and funding. With the technical support of the task group, the  
18 costing system was internalized but managed only by accountants, with no effects on the  
19 day-to-day activities of the hospitals. ‘Initially, costing was just relevant to the  
20 accountants. We collected data, conducted analysis and reported it to the MHB as  
21 required’, the chief accountant of case hospital Alfa (informant N) recalled.  
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31 This pattern fits with the description of ‘reorientation through absorption’ as  
32 commonly evidenced in worldwide public-sector reforms (Broadbent and Laughlin,  
33 1991, 2013; Agrizzi et al., 2016; Fiondella et al., 2016). From the steering media  
34 perspective, it was a failure of steering, attributable to the mismatched payment system.  
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38 Motives to use cost information in hospital management came from NHR,  
39 particularly the payment system reforms, which intensified from 2011. New policies were  
40 introduced changing the basis for reimbursement from actual costs to predetermined costs  
41 based on population or DRGs (MHRSS, 2011). Negotiation mechanisms between  
42 healthcare funders and providers were established and promoted, to decide payment rates.  
43 These changes made salient the importance of cost information to hospitals.  
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48 First, they started to realise the importance of cost information in identifying cost-  
49 saving channels and avoiding waste to improve profitability. ‘Either population- or DRG-  
50 based, once the payment method is decided, our revenue becomes fixed. We then need to  
51 control cost to make profit’, the chief accountant of case hospital Alfa (informant N)  
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56 <sup>3</sup> Please refer to Appendix 2 for the details of the numbered informants.  
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3 emphasized. For example, their surgical department used to store six months' worth of  
4 gloves, which were poorly managed and often wasted. Cost information and analysis in  
5 2011 highlighted this problem and its impact on financial performance. They then  
6 reduced the stock to one-week usage, which led to reduced waste. This use of cost  
7 information aligned well with the cost control intention steered by the MHB, which was  
8 supported by the common beliefs in healthcare cost-effectiveness, as shared by both  
9 marketization and social welfare re-emphasis reform paradigms.

15 Second, following the payment reforms, the hospitals began to demonstrate a  
16 strong desire to use cost information in decision-making in order to maximize their profit.  
17 For example, the chief accountant from case hospital Beta (informant P) was passionate  
18 about how important costing information was to her role:

22 We need to know how different types of operations affect our profit. The  
23 managers in the hospital, from top to middle level, are all medical professionals.  
24 Cost information is a powerful tool for me to show those managers what they  
25 need to do so the hospital can be sustainable.

27 She elaborated with an illustration:

29 MBHRSS pays us 6,800 RMB for one type of thyroid operation, but the cost is  
30 over 10,000 RMB. I just told the Unit Director: "The gap is clear! You cannot  
31 register this type of patient if you are not able to control the cost; otherwise you  
32 will have to find a way from your unit's operation to bridge the gap between  
33 payment and cost!"

35 While she emphasized the importance of cost information in managing operations,  
36 any suggestion of rejecting unprofitable patients was a violation of government  
37 regulations, potentially resulting in penalties. She did not consider this a problem because  
38 legitimate excuses could be found, such as scarcity of beds, or surgeons being fully  
39 scheduled, among others. This was wryly echoed by the remarks of an informant from the  
40 DRC (informant J): 'Doctors are smart; hospitals are mighty!'

46 Third, cost information became increasingly important in negotiation with care  
47 purchasers on fund allocation or payment method and rate. One such use was to assess  
48 the impact of reforms. For instance, a series of payment reforms had been introduced in  
49 Beijing since 2009, exploring different models, and inviting hospitals to volunteer for  
50 pilot studies. The informants provided examples of using cost information in assessing  
51 the impact of payment reforms and in helping hospitals to make decisions on when they  
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3 should participate in pilots, in order to maximize their financial gain. Informant (N) from  
4 case hospital Alfa provided the following example:  
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6 We were invited to join the Global Budget Payment reform pilot in 2012. My  
7 hospital president asked me if we should accept the invite. I told him to wait. The  
8 payment would be determined based on the cost at the time of the pilot. We  
9 expected significant increases in our care costs the following year due to reforms  
10 involving other local hospitals, so we would be better-off not to participate in the  
11 reform until the actual costs had increased.  
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14 Taken together, our investigations demonstrated that the hospitals' attitude  
15 towards using cost information changed from passive to active. Their response to steering  
16 since NHR went beyond 'reorientation through absorption'. It revealed a new, more  
17 complex pathway, distinct from the MRT classic pathways. First, the case demonstrably  
18 did not fit with 'colonization' or 'evolution', as the dominant belief in profit  
19 maximization was maintained regardless of how cost information was used and despite  
20 the re-emphasized social welfare focus promoted by NHR. In other words, this steering  
21 had failed to alter the lifeworld of hospitals. Second, NHR, particularly the payment  
22 method reform, had strengthened the hospitals' accountability for efficiency and enabled  
23 the use of cost information to enhance cost control. Cost control being embedded in daily  
24 activities signified that changes in the hospitals were beyond Broadbent and Laughlin's  
25 (2013) reorientation through 'absorption' or 'boundary management'. Furthermore, cost  
26 information was actively utilised in a manner that enforced the lifeworld of hospitals in  
27 terms of profit maximization, rather than just passively protecting it from change, as in  
28 the case of previous studies (Agrizzi et al., 2016, Broadbent and Laughlin, 2013). In our  
29 case, the use of cost information by hospitals was manipulated in ways that served only  
30 their belief in profit maximisation rather than pursuing the societal lifeworld requirement  
31 for cost efficiency. The effectiveness of the use of cost information from the hospitals'  
32 perspective might cause damage from a social welfare viewpoint. Thus, the apparent  
33 effectiveness of inter-organizational steering showed another means of reorientation that  
34 we labelled 'reorientation through manipulation'.  
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### 50 **Intentions to steer healthcare pricing reform and the responses**

51 When 2009 marked the beginning of the NHR era, the costing system in  
52 healthcare in Beijing became well established. The MHB intended to further promote the  
53 use of cost information in pricing reform, a critical area of public healthcare reform.  
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3 The prices of essential medical services in Beijing had not been systematically  
4 adjusted since 1999, resulting in serious price and cost deviation, and making healthcare  
5 efficiency assessment and resource allocation difficult. The question of whether cost  
6 information might facilitate medical service pricing reform or not was met with diverse  
7 views from different societal institutions.  
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11 From an MHB viewpoint, the functions of supporting healthcare reforms and  
12 government administration were embedded in the design and development of the costing  
13 system. Technically, great care was taken in the system design to ensure that the data was  
14 logically structured, so that cost information would be accumulated correctly bottom-up,  
15 from hospital to city level. The medical service coding was in alignment with that used  
16 by the DRC. The director of the MHB Accounting Centre (informant C) regarded this  
17 standardization as an 'important foundation' for the usefulness of cost information at the  
18 institutional level. It was further emphasized by informant (E):  
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25 It was a top-down design. We were given this job by the MHB, who anticipated  
26 the increasing needs of cost information following the deepened healthcare  
27 reforms. We took great care to ensure the standardization of the cost structure, so  
28 the cost information has the potential to be used for different purposes and within  
29 wider contexts.  
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32 Since healthcare service pricing was a function of the DRC, as shown in Figure 1,  
33 the MHB invited officials from this committee to an on-site inspection and demonstration  
34 in 2010, to offer information support for pricing reform. In our investigation, the remarks  
35 from both sides on the DRC's reaction to such an event appeared on different pages. The  
36 informants from the MHB emphasized the usefulness of cost information and claimed  
37 that there were no objections or negative comments from the DRC. By contrast, the  
38 informants (e.g. J) from the DRC who participated in the demonstration interpreted their  
39 'no comments' differently: 'We did not provide feedback on their costing system after  
40 the inspection and demonstration, because we did not think that it would be useful or  
41 acceptable to pricing.'  
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49 The barriers, informant (K) further elaborated, were specific accounting technical  
50 problems, such as varying interpretations of relevance, legitimacy and reasonableness.  
51 For example, the DRC considered as relevant only those items that needed to be offset by  
52 pricing, such as excluding costs that had been compensated by government. Indeed,  
53 pricing was only one of the channels through which healthcare cost could be offset;  
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3 therefore, the full cost of medical services as provided by the MHB could not be used  
4 directly by the DRC for pricing, as also admitted by an MHB informant (B): ‘Of course,  
5 the DRC needs to make some adjustments. For example, those cost items that have been  
6 offset by government direct investment should be excluded.’  
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10 However, the technical problems were not impossible to resolve since the MHB’s  
11 medical service codes were standardized and consistent with those of the DRC. Further  
12 investigation shed light on the political considerations of the DRC behind their reluctance  
13 to advance pricing reforms. Their major concern was who would underwrite the  
14 increased costs, as prices would certainly rise. Whoever had to would certainly complain.  
15 Such protest, and potential social unrest if the reform led to increased out-of-pocket  
16 payments by patients, would jeopardise DRC officials’ political career prospects. The  
17 failure of pricing reforms in Chongqi in 2015 – a case attracting great publicity – proved  
18 that their worries were not groundless.<sup>4</sup> A DRC director (informant I) explained:  
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25 You do not dare adjust. Once you do, citizens protest, the MBHRSS will  
26 complain, and the MoF could not take the increased financial burden either. It  
27 becomes a deadlock. Nobody is willing to take the political risk to break it!  
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30 Another informant (J) of the DRC expressed similar views:

31 It is difficult for the government to advance the price reform. It involves the  
32 interests of all parties. Medical insurance has limited resources. Increase patients’  
33 out-of-pocket payment? Nobody wants to take this risk within his/her term of  
34 office!  
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36 A further informant (G) effectively concurred:

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38 Can the establishment of a healthcare costing system and database facilitate  
39 pricing reform? It is not up to cost information per se. It depends on how the  
40 government leaders consider this. They have been aware of the problem (pricing)  
41 but why is there still no pricing reform? They mainly consider the social stability  
42 and worry that pricing reform would cause social unrest!  
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44 Consequently, the MHB’s attempt to steer pricing reform by offering cost  
45 information support was unsuccessful. The DRC did not utilise the cost information  
46 provided by the MHB in healthcare pricing, and there was no systematic pricing reform  
47 in Beijing by the cessation of our research. While the MHB and MBF both viewed  
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54 <sup>4</sup> Because of the social riot caused by the reform, Chongqi’s MHB had to halt the  
55 adoption of adjusted medical service pricing on 2 April 2015, just seven days after its release, and  
56 refund patients the extra money paid during those seven days. The story headlined all major  
57 Chinese newspapers that day, e.g. <http://politics.caijing.com.cn/20150402/3853899.shtml>  
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3 costing as neutral and instrumental in terms of pursuing economic efficiency and social  
4 welfare, pricing was more of a political issue to the DRC, whose response to steering was  
5 a case of 'rebuttal'. They used technical excuses to undermine the usefulness of the  
6 dataset provided by the MHB and withheld any opportunity from the MHB to even trial  
7 the use of the cost information in pricing reform. Their attitude exemplified how to  
8 prevent the intrusion ever reaching them, a tactic identified by Broadbent and Laughlin  
9 (2013). Rebuttal against inter-organizational steering is regarded as rare in extant studies  
10 on public sector reform. It could be argued that the DRC's exceptional success in  
11 resistance – the failure of steering media (MHB) to steer – derived from a lack of  
12 positional or economic steering power, given the lack of hierarchy or funding relationship  
13 between the MHB and DRC. However, even though the MHB did not have positional  
14 power to enforce compliance, the relational steering attempt was legitimate, as its  
15 intention was consistent with the demands of the societal lifeworld. As a societal  
16 institution, the DRC had to justify their rebuttal, but the consideration of the impact on  
17 their political career could not be used as a legitimate reason. The DRC's dominant  
18 political value in their lifeworld, as revealed only by our investigation, had to remain  
19 hidden from public. Officially in this case, the DRC used technical accounting  
20 terminology and reasoning to undermine the relevance and reliability of the costing  
21 system, evidencing the 'hidden power' of accounting (Ellwood, 2008).  
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## 38 **DISCUSSION and CONCLUSION**

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40 The conflicting values of social welfare and marketization are commonly manifest  
41 following impromptu healthcare reforms around the world. As evidenced in developed  
42 economies globally, it is the resistance to market efficiency demands from clinicians that  
43 makes this salient (e.g. Broadbent et al., 1991; Kurunmaki et al., 2003; Lapsley, 2009;  
44 Fiondella et al., 2016; Hyndman and Lapsley, 2016). Following a different development  
45 path, Chinese public hospitals prioritized the need for economic efficiency, suppressing  
46 beliefs in social welfare, during the marketization reform era from the 1980s to the 2000s.  
47 Consequently, a critical social crisis came on the heels of the financial crisis. The New  
48 Healthcare Reform (NHR) launched in 2009 aimed to restore social welfare values and  
49 steer the systems (hospitals) to reflect the balanced demands of multiple values. Within  
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3 this context and adopting an MRT lens, this study investigated the interactions among  
4 government bureaus and public hospitals regarding costing system development, in  
5 Beijing during the period 2002 to 2015. The insights informed an extended MRT  
6 framework, as depicted by Figure 4.  
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11 *Please Insert Figure 4 about here*  
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14 The study reports the successful internalization of costing systems in public  
15 hospitals in Beijing, which supports the effectiveness of a hybrid steering mechanism  
16 combining both transactional and relational features. The collaboration between the MHB  
17 and MBF as steering media, and the interaction between steering media and societal  
18 systems (hospitals) through professional support, facilitated the internalization of the  
19 costing system. Empirically this confirms the findings of previous studies that steering  
20 media and systems are interconnected rather than separate entities (Oakes and Berry,  
21 2009; Campanale and Clinquini, 2016).  
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28 More importantly, our study demonstrates that the successful internalization of  
29 costing systems does not indicate the success of steering in changing the lifeworld of  
30 societal systems. Benefitting from its longitudinal nature, this study makes significant  
31 contribution to the literature by shedding light on the evolving responses to steering from  
32 societal institutions and organizations, and the interactions of multiple lifeworld values  
33 behind such responses.  
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38 Firstly, the study identified a new organizational change pathway, ‘reorientation  
39 through manipulation’, observing the evolving response to steering from passive  
40 ‘absorption’ to active ‘manipulation’. Thus, it provides fresh empirical evidence for, and  
41 extends, the MRT (Broadbent and Laughlin, 2013; Agrizzi et al., 2016; Campanale and  
42 Cinquini, 2016). The hospitals initially responded by ‘reorientation through absorption’,  
43 the accountants dealing with the requirements from the MHB and MBF but making no  
44 active use of cost information in hospital management until 2009. This is consistent with  
45 previous studies’ observations of resistance to public sector reforms (Broadbent et al.  
46 1991; Broadbent and Laughlin, 2013).  
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54 Driven by NHR and particularly the healthcare payment method reform that  
55 intensified from 2009, the hospitals responded to the steering with a new change  
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3 pathway: ‘reorientation through manipulation’. Its main features are twofold: (1) There  
4 are changes in daily activities, signifying the response to steering moves beyond passive  
5 absorption and boundary management. In our study, the case hospitals used cost  
6 information to improve efficiency and assist decision-making. (2) Such changes reflect  
7 the maintained organizational lifeworld, distinct from colonization or evolution. Our case  
8 hospitals actively used cost information in pursuing profit maximization, rather than  
9 meeting the demands of the societal lifeworld.

15 Secondly, the change in hospitals’ attitudes towards utilizing cost information  
16 from passive to active is attributable to the reform of payment mechanisms, which is  
17 consistent with Hill’s findings (2000) in the U.S. where the change in Medicare  
18 reimbursement was a driving force in the adoption of costing systems during the 1980s.  
19 In healthcare policy research, evidence in general shows that payment change leads to  
20 changes in care strategies and resource utilization, but not necessarily in care outcomes<sup>5</sup>  
21 (e.g. Cheng et al., 2012; Louis et al., 1999). Although testing the effect of payment  
22 method change on care outcomes is beyond the scope of this paper, our observation on  
23 hospitals’ opportunistic behaviours supports the argument that managerial self-interest  
24 can affect the choice of care services (Eldenburger and Kallapur, 1997).

32 Thirdly, at an institutional level, our case study observed the interactions among  
33 different steering media, filling an important gap in the literature with insights on the  
34 roles of multiple actors in the steering process (Campanale and Cinquini, 2016). It  
35 contributes to the literature on the broader role of accounting in general (Modell, 2014)  
36 and in the healthcare sector in particular (Chapman et al., 2014). In our case, the MHB  
37 intended to promote the use of cost information to facilitate pricing reform, which was  
38 the DRC’s territory. There was sharp ‘resistance with rebuttal’ from the DRC. More  
39 importantly, it reveals political consideration as a hidden agenda, while accounting  
40 language was deployed to obtain legitimacy for the rebuttal. It shows how accounting  
41 can be used as a means of evasion, serving political purposes (Modell, 2014; Ellwood, 2008).

48 Furthermore, in contrast to previous studies adopting an MRT lens, our  
49 undertaking allowed us to investigate the existence and impact of plural and even

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54 <sup>5</sup> We thank an anonymous reviewer for suggesting this point.

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3 conflicting values in societal and organizational lifeworlds. First, as an intra-  
4 organizational control mechanism, costing can be used effectively to drive changes that  
5 reflect and enforce an organization's lifeworld; however, this can cause damage when the  
6 organizational lifeworld is not aligned with the societal lifeworld. Second, at an  
7 institutional level, the effectiveness of costing as an inter-organizational steering  
8 mechanism is conditional. On the one hand, the effectiveness of steering was only  
9 evidenced when the societal and organizational lifeworlds were aligned in terms of  
10 efficiency, through the payment method reform. On the other hand, steering became  
11 ineffective where there were conflicts between the societal and organizational lifeworlds,  
12 as in the case of the hospitals' opportunistic behaviour and the DRC's rebuttal. While the  
13 failure of inter-organizational accounting steering is often observed in public sector  
14 reforms internationally, with the reasons explored across several settings (Hyndman and  
15 McKillop, 2018), our study emphasizes the importance of understanding lifeworld  
16 complexity at societal and organizational levels. The so-called neutral nature of the  
17 accounting steering mechanism means that it can be more easily manipulated where  
18 multiple co-existing values exist, and where there is weak governance and accountability  
19 as in the public sector. Piecemeal reform can encourage actors to circumvent regulations  
20 and continue to prioritize their own interests (Fu et al., 2017). A systemic design that  
21 bundles or blends different mechanisms, which calls for a better understanding of  
22 organization lifeworld and cross-institution collaboration, is a way forward for public  
23 sector reform, both in China and worldwide.

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Our study was limited to a single case study of the top-down development of costing systems in the healthcare sector. While the involvement of the insider researcher at the case site provided us with a valuable research opportunity for in-depth observation, we acknowledge the risk of bias, which might have not been fully mitigated by using an outsider researcher in lieu. Further study of similar or different models of accounting steering in China and worldwide would afford greater insights into its effectiveness in public sector reforms. The granular views from our longitudinal research and analysis on the impact of healthcare reforms warrants further larger-scale studies, which may explore whether they would lead to negative impacts on care outcomes and resource utilization. Our investigation also suggests the potential existence of power-seeking in the

interactions among societal institutions. Further studies in this direction could prove fruitful.

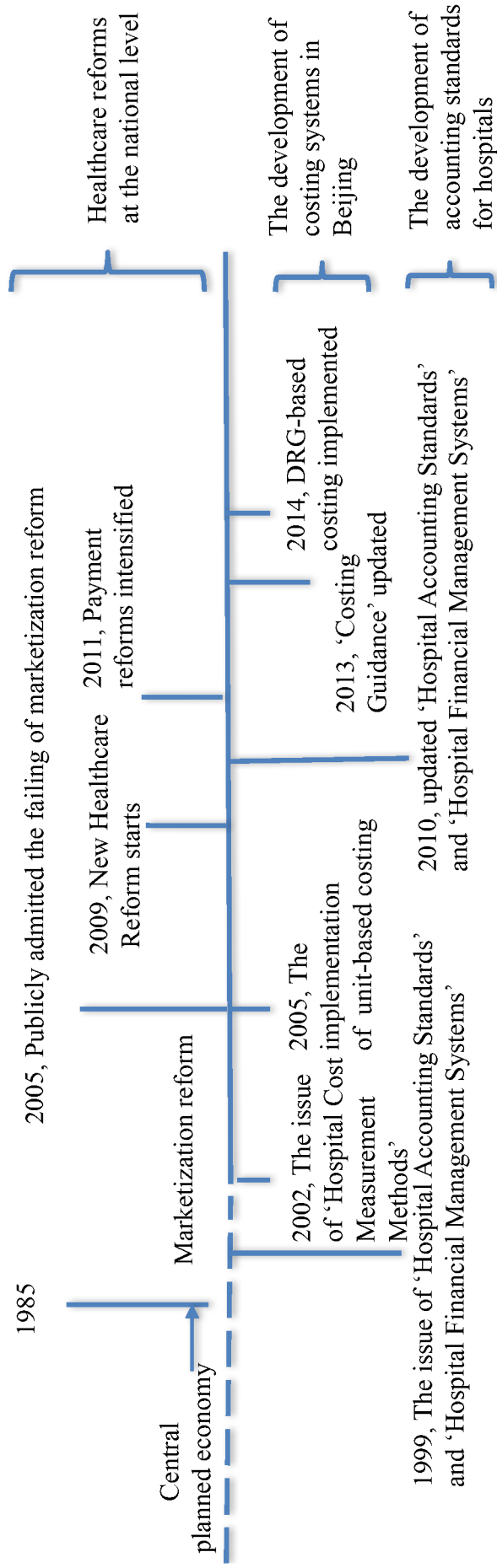
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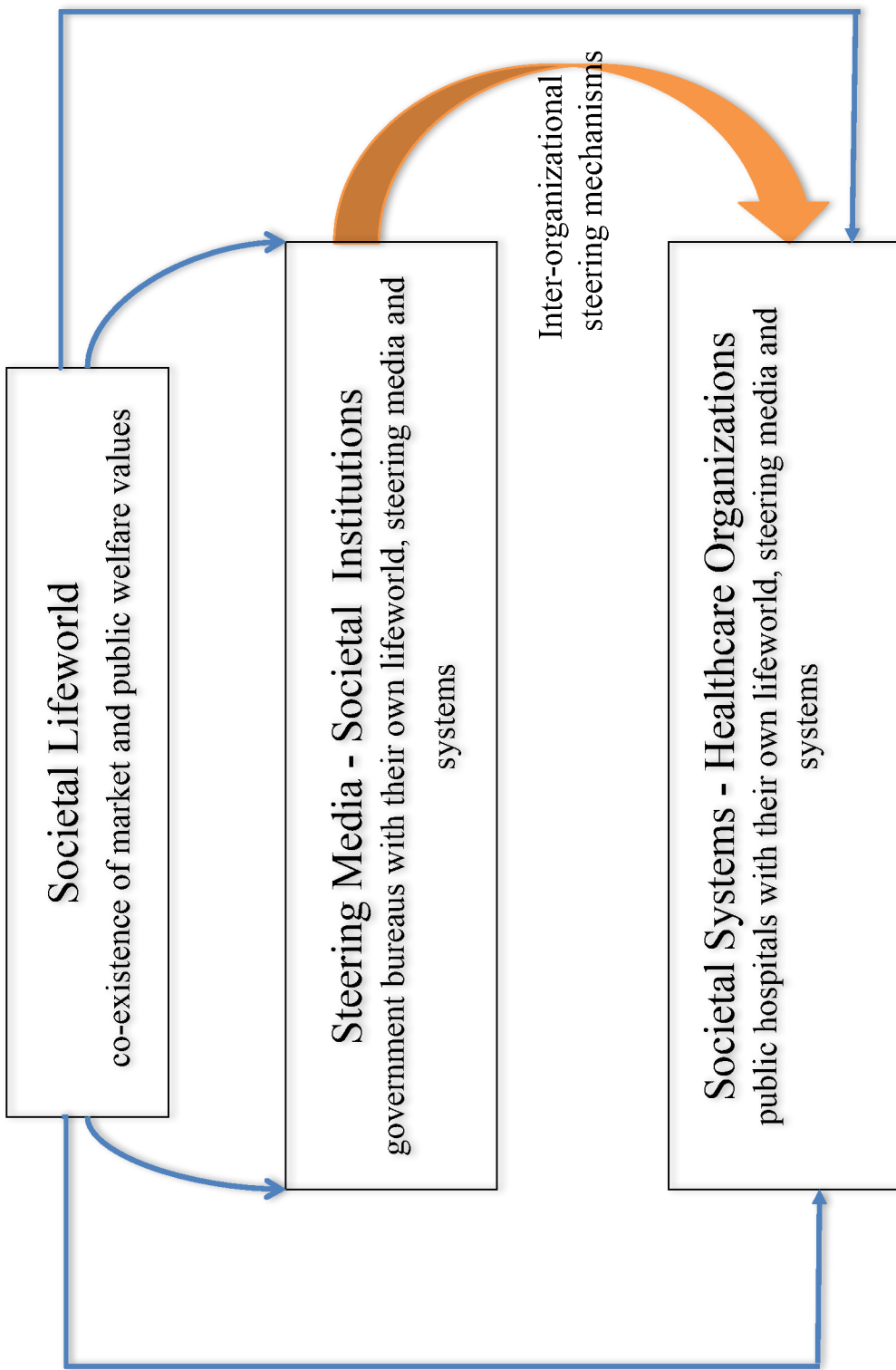


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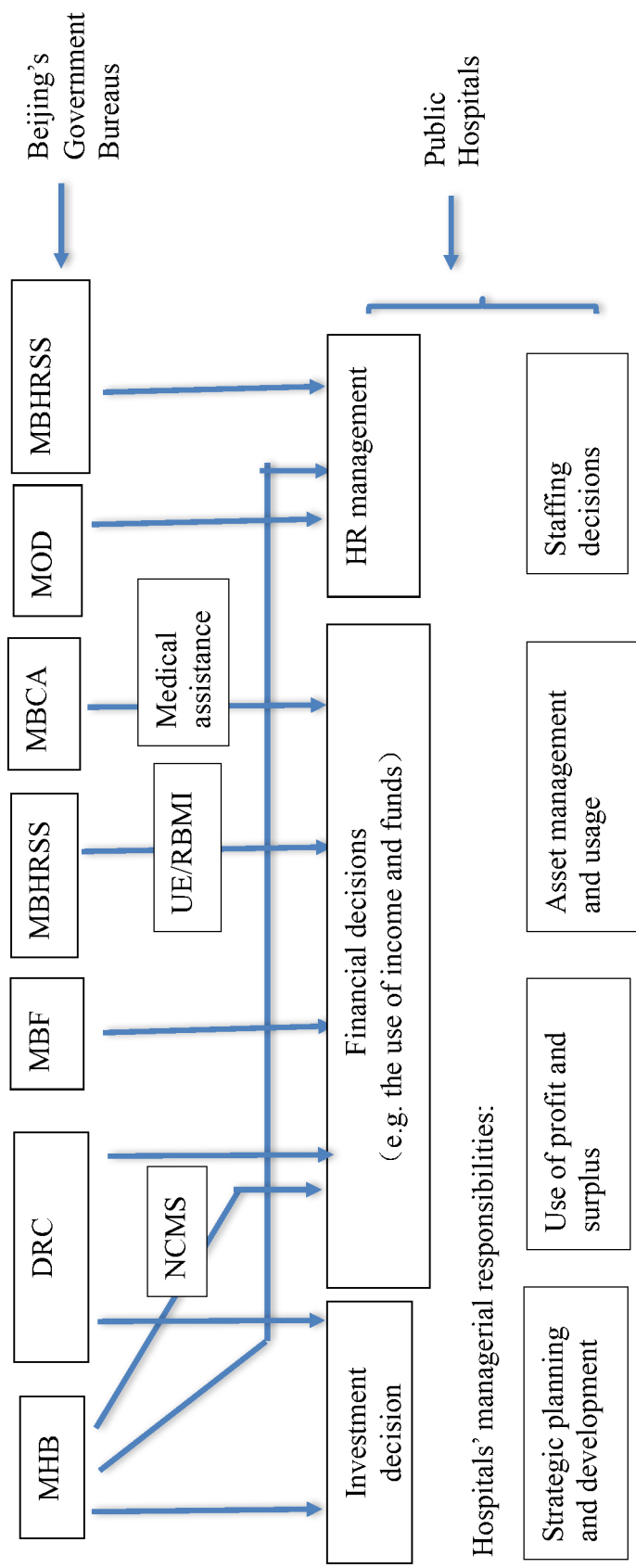
**Figure 1.** Reform initiatives and the timeline of costing development



**Figure 2.** Steering linkages between society and healthcare organizations within the research context (Figure categories and format adapted from Broadbent et al., 1991, 2013)

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Hospitals' managerial responsibilities:

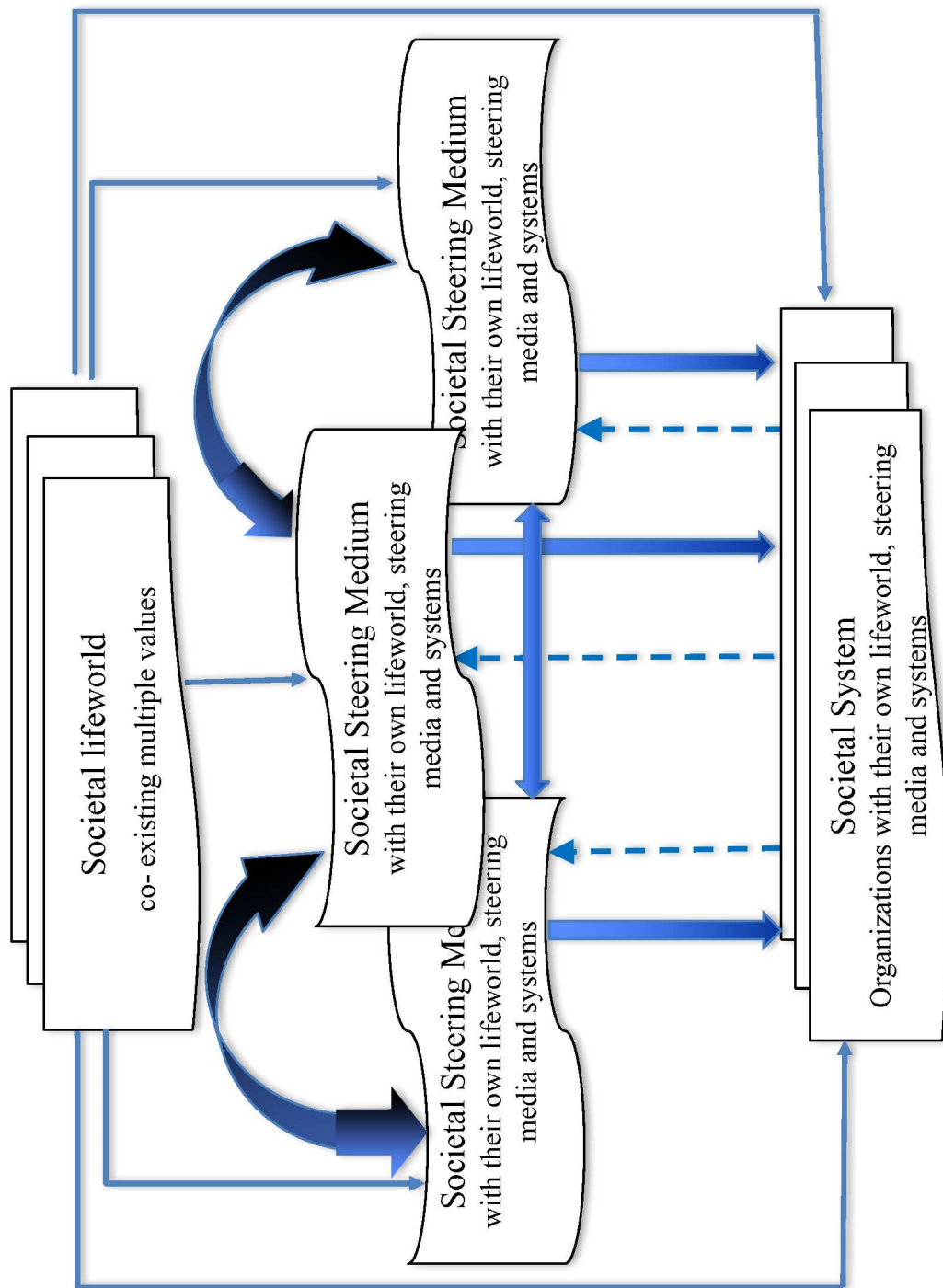
Strategic planning and development

Use of profit and surplus

Asset management and usage

Staffing decisions

**Figure 3.** Government bureaus and public hospital management in Beijing  
 MHB – Municipal Health Bureau;  
 DRC – Development and Reform Committee;  
 MBF - Municipal Bureau of Finance;  
 MBHRSS - Municipal Bureau of Human Resource and Social Security;  
 MBCA – Municipal Bureau of Civil Affairs;  
 MOD – Municipal Organization Department (of Chinese Communist Party);  
 NCMS – New Cooperative Medical Scheme;  
 UE/RBMI – Urban Employee/Resident Basic Medical Insurance.



- Left and right arrow – Steering and responses between institutions;
- Solid arrow line – Inter-organizational steering;
- Dotted arrow line – organizational responses to steering;
- Elbow arrow connectors and arrow lines – the impact of societal lifeworld

Figure 4. The multiple values in lifeworld and the interactions among lifeworld, steering media and systems

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