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The Relationship Between HR Capabilities and Quality of Patient Care: The Mediating Role of Proactive Work Behaviors

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Abstract

Based on theoretical frameworks of resource-based theory, dynamic capabilities, and behavioral perspective on human resource management, we developed a multidimensional construct of human resource (HR) capabilities and tested its relationship with quality of patient care using a national sample of U.S. hospitals. The data on HR capabilities were collected from senior managers (421 individuals nested in 279 hospitals) representing both the administrative and clinical sides of the hospitals. The data on quality of patient care were gathered from two unique sources – patients of 207 hospitals who reported the data via the Hospital Consumer Assessment of Healthcare Providers and Systems Survey and 421 senior managers of 279 hospitals. Our analyses using structural equation modeling suggests that the positive relationship of HR capabilities with quality of patient care is mediated by proactive behaviors of health care workers. Implications of the study findings for research and practice are discussed.

Keywords

HR capabilities; dynamic capabilities; quality of patient care; resource-based theory

Health care systems across the globe are facing critical organizational and management challenges. To navigate these challenges successfully, health care organizations need to pay greater attention to organizational and management issues than in the past (Gawande, 2005; Institute of Medicine Report, 2012; Khatri, Baveja, Boren, & Mammo, 2006; Ramanujam & Rousseau, 2006). For example, Gawande (2005: 3) noted: “Research on our health care system can save more lives...than bench science, research on the genome, stem-cell

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²We would like to thank an anonymous reviewer for this observation.

research, and everything else we hear about on the news.” Unfortunately, organizational and management issues in health care have generally taken a back seat because of a clinician-centric care model (Khatri, Baveja, Boren, & Mammo, 2006; McBride & Mustchin, 2013). In particular, the vital role of human resource management (HRM) in a highly service-intensive health care context continues to be overlooked (Khatri, Pasupathy, & Hicks, 2012; Townsend & Wilkinson, 2010).

Health care policies around the globe underline the centrality of people and cultural issues in delivering efficient and safe patient care (see Baluch, Salge, & Piening, 2013; Buchan, 2004; Dussault & Dubois, 2003; Institute of Medicine Report, 1999; 2012; Kabene, Orchard, Howard, Soriano, & Leduc, 2006; Khatri, Wells, McKune, & Brewer, 2006; McBride & Mustchin, 2013; Townsend, Lawrence, & Wilkinson, 2013). Unfortunately, the prescriptions to resolve people and cultural issues are not commensurate with the diagnosis of the problem in that the proposed solutions emphasize technological fixes even to problems that are inherently people-related and cultural (Bartram & Dowling, 2013; Buchan, 2004; Khatri, Baveja, Boren, & Mammo, 2006; Khatri, Brown, & Hicks, 2009; Ramanujam & Rousseau, 2006; Townsend & Wilkinson, 2010). A predictable result is that people and cultural issues remain unaddressed with major adverse consequences such as low morale of health care workers and poor quality of patient care (Bartram & Dowling, 2013; Khatri, Brown, & Hicks, 2009; McBride & Mustchin, 2013). Indeed, there seems to be a glaring discordance between the attention given to issues of financing and structural transformation and the low attention given to HRM issues, despite the fact that people-related issues lie at the core of these other proposed initiatives (Buchan, 2004; Dussault & Dubois, 2003; Khatri, Baveja, Boren, & Mammo, 2006; Townsend & Wilkinson, 2010).

In this study, we contribute to existing HRM research in two ways. First, we respond to calls of HRM scholars for identifying mediating mechanisms through which HRM may influence organizational outcomes that range from proximal (e.g., HR outcomes) to more distal (e.g., quality of products/services or financial performance) (Guest, 2011; Jiang, Lepak, Hu, & Baer, 2012). Indeed, investigating the ‘black box’ of the HRM-performance relationship seems to be the next frontier in HRM research. Accordingly, we examine the mediating role of proactive work behaviors in the relationship between HR capabilities and quality of patient care in a national sample of U.S. hospitals.

Second, we contend that the theory of dynamic capabilities can be effectively extended to HRM. The last two decades have seen a tremendous amount of research in HRM with one of the major themes being the relationship between HR practices and organizational outcomes, and also the emphasis on addressing the unanswered core questions about the relationship between HRM and performance (Barney, Ketchen, & Wright, 2011; Guest, 2011; Huselid, 2011). The theory of dynamic capabilities, which has been hailed as encapsulating one of the most ambitious research agenda in social sciences, suggests that, in a changing context, firms need to possess capabilities to continuously renew and reconfigure resources to stay relevant (Bacerra, 2008; Barreto, 2010; Helfat et al., 2007; Teece, 2007). The HRM field now seems ripe for exploring sustainable competitive advantage arising from building organizational capabilities in HR (Khatri, 2006; Park, Gardner, & Wright, 2004).

Theoretical Background and Hypotheses Development

The present study is premised on the related theoretical frameworks of resource-based theory, dynamic capabilities, and the behavioral perspective on human resource management. Resource-based theory has evolved from a nascent, upstart perspective to one of the most prominent and powerful theories of understanding organizations (Barney, Ketchen, & Wright, 2011). It has helped build a productive theoretical bridge between HR literature and the field of strategy (Colbert, 2004; Wright, Dunford, & Snell, 2001).

Teece, Pisano, and Shuen (1997) introduced the concept of dynamic capabilities and explained competitive advantage arising from the confluence of assets, processes, and evolutionary path. The dynamic capabilities framework is useful in making resource-based theory operational by identifying specific organizational mechanisms and processes that enable a firm acquire, develop, deploy, combine, and reconfigure its resources to achieve sustainable competitive advantage (Barreto, 2010; Wang & Ahmed, 2007). This is because the internal logic of resource-based theory is somewhat paradoxical: the strategic value of the firm resources lies in their inherent complexity, and attempts to causally unravel those complexities are counterproductive. Thus, intermediate constructs, such as dynamic capabilities, are needed to preserve the strategic value of resource-based theory without compromising its essence (Barreto, 2010; Colbert, 2004). The dynamic capability framework offers an advantage in that it directs firms to combine, develop, and deploy resources more effectively to gain competitive advantage; simply owning more of superior resources is not sufficient (Barreto, 2010). Dutta, Narasihman, and Rajiv (2004), in their study of R&D capabilities across firms in the semiconductor industry, concluded that what makes capabilities so valuable is that they are 'sticky', a view corroborated by Teece (2007) who observed that dynamic capabilities are difficult to develop and deploy.

Barreto (2010), in his review of the literature on dynamic capabilities, concluded that the research on dynamic capabilities has generated a remarkably rich but often disconnected body of research, pointing in disparate directions. There is a proliferation of concepts and relationships and now it is time for construct clarification and consolidation (Helfat et al., 2007; Leiblein, 2011). For example, the micro-foundations of dynamic capabilities proposed by Teece (2007) are quite broad, all-encompassing. The author views dynamic capabilities as distinct skills, processes, procedures, organizational structures, decision rules, or disciplines that undergird enterprise-level sensing, seizing, and reconfiguring capacities. In this study, we have developed the conception of HR capabilities as an example of organizational capabilities with a view to contributing to construct clarification and consolidation of research on dynamic capabilities.

Next, we discuss the urgent need for building HR capabilities in health care organizations, consider the vital role of proactive work behaviors in health care delivery process, and propose specific hypotheses.

Significance of HR Capabilities in Health Care Organizations

HRM in health care is more complex than many other industries because of labor intensiveness, well-established separate professions and occupations with their own locus of

practice and control, and the sheer scale of operations (Dussault & Dubois, 2003; Khatri, Pasupathy, & Hicks, 2012). The underlying logic of the resource-based theory and dynamic capabilities would suggest that HRM may be even a more potent source of competitive advantage in health care than other industries (Buchan, 2004; Everhart, Neff, Al-Amin, Nogle, & Weech-Maldonado, 2013; Townsend, Lawrence, & Wilkinson, 2013). Indeed, sometimes, health care organizations are not able to manage their HR well because it can become fairly complex for them (McBride & Mustchin, 2013). Consequently, those health care organizations that are able to harness their HR effectively will have a significant competitive edge over others. Further, some health care organizations have yet to realize that HR can be a source of competitive advantage because of the 'clinical culture' or 'clinical myopia' (Khatri, Baveja, Boren, & Mammo, 2006:124), and consequently, HR continues to remain a 'hidden value' (O'Reilly & Pfeffer, 2000).

The importance of HR in health care is evident from the simple fact that salary and wages constitute about 65 to 80 percent of the total operating budget in a typical health care organization, making it the single largest input in the healthcare delivery process (Buchan, 2004; Dussault & Dubois, 2003; Khatri, Pasupathy, & Hicks, 2012). It is only logical that health care organizations utilize their HR maximally, if they want to improve their clinical outcomes. In this connection, several scholars suggest that while HRM is important in a health care context because of its service-and knowledge-intensiveness, it remains an outdated and overlooked function in many of these organizations (see Baluch, Salge, & Piening, 2013; Buchan, 2004; Dussault & Dubois, 2003; Kabane et al., 2006; Khatri, Pasupathy, & Hicks, 2012; Khatri, Wells, McKune, & Brewer, 2006; McBride & Mustchin, 2013; Townsend & Wilkinson, 2010). For example, Townsend and Wilkinson (2010) note that health care reforms in the last 25 years have focused largely on structural change and cost containment, but the importance of the management of HR has often been overlooked even when HR may well dictate and constrain the introduction and roll out of these other initiatives. Similarly, Leggat, Bartram, and Stanton (2011) observe that many health care organizations have not been effective in ensuring that basic aspects of human resource management systems are in place. They found that hospital organization and hierarchy reinforce parallel care processes that fragment human resource management practices and systems. Khatri and his colleagues (Khatri, Wells, McKune, & Brewer, 2006; Khatri, Brown, & Hicks, 2009; Khatri, Pasupathy, & Hicks, 2012) argue that current HR systems and practices in health care are premised on the old industrial model of management and, thus, are fairly inadequate in managing knowledge-based and service-intensive health care entities. It is quite possible that health care organizations are often unable to make the leap from traditional HRM practices to strategic HRM systems because they may lack the necessary HR capabilities to do so (Boudreau & Lawler, 2014; Khatri, Wells, McKune, & Brewer, 2006; Lawler & Mohrman, 2003; Townsend & Wilkinson, 2010). Ironically, the anecdotal evidence suggests that they might be headed in the opposite direction in the last few years as they pursue lean management principles borrowed from manufacturing (Khatri, Pasupathy, & Hicks, 2012; McBride & Mustchin, 2013). Sometimes, HR tasks have landed in the lap of nurses and other administrators, who may lack professional expertise necessary to manage HR (Khatri, Baveja, Boren, & Mammo, 2006; McBride & Mustchin, 2013).

Two recent research developments signal the importance of building organizational capabilities in managing HR more effectively. First, several HR scholars argue that proper implementation of HR practices and systems is a more important determinant of organizational outcomes than mere presence of a particular set of practices or systems such as high-performance work systems (HPWS) (Baluch, Salge, & Piening, 2013; Guest & Conway, 2011; Tremblay et al., 2010). In turn, the effective implementation of HR practices and systems has been suggested to depend largely upon whether an organization possesses sufficient HR expertise and capabilities (Chow, 2012; Lawler & Mohrman, 2003; Park, Gardner, & Wright, 2004). Many organizations in health care and other industries have poorly managed HR systems because they lack necessary emphasis, support, and capabilities in managing HR (Boudreau & Lawler, 2014; Lawler & Mohrman, 2003). We believe that HR capabilities are necessary to create a 'strong HR system' (Bowen & Ostroff, 2004) and reduce the gap between intended and implemented HR practices and systems (Nishii, Lepak, & Schneider, 2008; Woodrow & Guest, 2014). We would like to note here that while we argue that HR capabilities are essential for effective implementation of HR practices and systems, we do not empirically investigate this issue in the present study.

Second, the notion of dynamic capabilities, which is receiving increasing attention from strategic management scholars, suggests that, in a changing context, firms need to possess capabilities to continuously renew, reconfigure, and reallocate resources to stay relevant and such capabilities are the ultimate reason why they perform better than others (Becerra, 2008; Ketkar & Sett, 2009). We believe that the theory of dynamic capabilities can be fruitfully extended to HR activities and systems because human resources and systems may need to be constantly renewed, adapted, and modified as the external environment shifts. In this vein, we define HR capabilities of an organization as mechanisms to acquire, develop, renew, reconfigure, and deploy its human resources so that the organization is able to adapt and remain in alignment with changing strategic business needs and external environment.

Our conception of HR capabilities in health care settings has three dimensions. The first dimension is the chief executive being 'enlightened' about the critical role that HR can play in boosting organizational outcomes by implementing a more effective HR system (Brandl & Pohler, 2010; Chadwick, Super, & Kwon, 2013; Stanton, Young, Bartram, & Leggat, 2010). The second dimension of HR capabilities in health care organizations is the compelling vision of the head of HR function or the Chief Human Resource Officer (CHRO), her understanding of the fundamentals of the health care delivery process, professional and leadership competence, relationship building with other departmental heads/units, and her being able to develop a well-articulated HR strategy (Boselie & Paauwe, 2005; Murphy & Southey, 2003; Truss, 2003). The third dimension of HR capabilities comprises of competencies of HR staff and overall proficiency of the HR department. HR employees need to have a thorough expertise in HR activities and a good understanding of the psychological and social behaviors of organizational employees for implementing appropriate HR practices (Han, Chou, Chao, & Wright, 2006; Quinn & Brockbank, 2006). They need to be proactive and quick in adapting to the concerns of employees and develop excellent rapport with other departmental heads and employees in the organization.

The above three HR capabilities proposed in this study are consistent with the notions of both resource-based view and dynamic capabilities. Past HRM research suggests that the support of CEO for HR is a critical element. According to Khatri, Wells, McKune, and Brewer (2006), one of the major contributory factors for poor management of human resources in health care organizations is that their chief executives have yet to grasp fully the significance of HR in health care delivery. Even if the HR department is trying to do things that may provide HR more dynamism, in the absence of CEO support, it may not succeed (Chadwick, Super, & Kwon, 2013). For example, Stanton et al. (2010) found that the role of the CEO is crucial in providing HR legitimacy, leadership, and resources that create a distinctive HR system, and in nurturing within group agreement and consensus among the senior executive team on the role of HR. Thus, we believe that, to achieve dynamic capabilities in managing human resources, CEO's support and enlightened view about the important role of HR is essential and an important HR capability.

Second, HRM literature identifies the significant role of the head of HR function and that is why it is considered as integral to imparting dynamic capabilities in managing human resources of an organization. Ulrich (1996) has made a persuasive case in favor of HR champions who can play a critical role in transforming the traditional HR function and make it more strategic that plays a more vital role in organizational performance. The capacity of HR function in a health care organization to influence employee behaviors and clinical outcomes may depend crucially upon the capacity and professionalism of the head of HR function.

Third, the HR department and HR employees with deep knowledge of their professional domain may be indispensable in a highly knowledge-based and service-oriented context that prevails in health care organizations. An HR function with cutting-edge HR knowledge and professionally competent HR employees is well-situated to modify, reconfigure, and renew HR practices and systems according to the strategic needs and prevalent culture of the organization.

In the absence of the above three mechanisms, health care organizations may struggle in influencing actions and behaviors of their employees and building a workforce capable of delivering exceptional health care services. We believe that an HR function with dynamic capabilities can develop unique and rare human resources that fit the environmental, strategic, and cultural contexts of an organization. That is why, we do not focus on a particular set of HR practices in this study. We do not subscribe to the universal perspective that a particular set of HR practices, such as high performance work systems (HPWS), would work for every organization. Instead, an organization may need to have three HR capabilities suggested in this study to develop HR practices that best work for the organization.

Clearly, quality of patient care is a critical performance dimension in the context of health care organizations. As Lee, Lee, and Kang (2012) have noted, patients and their families now expect (and often demand) better quality of patient care, and this should be treated as high priority by leaders in health care organizations. As Porter and Teisberg (2004) have argued, when health care leaders work towards improving quality of patient care, both

employees and patients benefit. However, in order to get employees to commit themselves to working towards better quality patient care, health care organizations will need to offer appropriate training and compensation to their employees for improving their engagement and satisfaction levels, since employee behavior is a critical determinant of customer satisfaction (Lee, Lee, & Kang, 2012). Those organizations that address these employee issues will see much higher levels of customer satisfaction than those that do not. In other words, health care organizations providing higher quality of patient care consistently because of higher levels of HR capabilities will have competitive advantage over others that provide lower quality of patient care because of lower level of HR capabilities. Thus, our first hypothesis:

Hypothesis 1: HR capabilities of health care organizations are positively associated with the quality of patient care.

Critical Role of Proactive Work Behaviors in Health Care Delivery Process

Drawing from the behavioral perspective on human resource management (see, Schuler & Jackson, 1987), this study also aims to examine the mediating role of proactive work behaviors in the relationship between HR capabilities and quality of patient care. Health care organizations, specifically hospitals, require a more proactive rather than a standard behavior from employees to be able to deliver exceptional service (Hyde, Harris, & Boaden, 2013; Korczynski, 2002; McClean & Collins, 2011; Schneider & White, 2004). Proactive work behavior in this study consists of initiative and flexibility, whereby initiative or self-starting behavior implies employees doing something without being told to, or without an explicit role requirement (Crant, 2000; Frese & Fay, 2001). Flexibility, on the other hand, is the capacity of employees to adapt to changing situations.

In order to better understand the nature of proactive behaviors, and how these behaviors are critical to the health care industry, it is important that we briefly address the critical concept of service quality and the factors that might influence service quality. First, the quality of health care provided to patients has to be a top priority for health care administrators, as this will have a direct impact on the bottom line of health care organizations. Of course, the definition of service quality could vary depending on the context. For example, it is possible that in some situations, service quality may be about providing consistent and reliable service, while in others it may be about adapting the service to fit individual needs and preferences¹.

However, the task of providing the highest quality service is the responsibility of the employees, and the quality and type of service they provide to the customers is directly “influenced by employee satisfaction” (Hartline & Ferrell, 1996). In other words, when employees are satisfied with their own jobs (content, training and rewards received, etc.), they are more likely to do their jobs to the best of their abilities. As Lee et al. (2012) have noted, “satisfied employees tend to be more engaged in providing quality services” (see also Yee, Yeung, & Cheng, 2008). It is logical to expect that fully engaged employees are also likely to demonstrate proactive behaviors.

¹We would like to thank an anonymous reviewer for suggesting that we note this critical distinction.

Frese and Fay (2001) refer to proactive work behaviors as an “active performance concept” because, in contrast to traditional performance concept that assumes a given task or goal, it implies that people can go beyond assigned tasks and show required initiative and flexibility in performing their jobs effectively. According to the authors, the proactive work behavior is not extra role behavior; employees can engage in all work activities including their formal tasks proactively. Proactive work behaviors are now viewed as important in most organizational environments (Beltran-Martin & Roca-Puig, 2013; Martin, Liao, & Campbell, 2013). The notion of proactive work behavior is consistent with the social-cognitive theory that assumes humans as reflective, self-regulating agents.

Self-starting and flexible work behaviors are valuable resources in the firm for two reasons (Beltran-Martin & Roca-Puig, 2013). On the one hand, an employee who successfully deals with different situations creates value because the firm is spared the costs of non-adjustments to changed situations. Since self-starting and flexible workers easily adjust to new situations, losses associated with lack of change are minimized. On the other hand, initiative and flexibility in employee behaviors facilitate change implementation processes in the firm by imparting necessary organizational agility.

The logic underlying the resource based view and the theory of dynamic capabilities is inherently contradictory to the universal perspective taken by researchers examining the relationship between a set of universal HR practices or high-performance work systems and firm performance. Thus, as per our conception of HR capabilities, we do not suggest that HR capabilities impact proximal and distal organizational outcomes by enabling implementation of a common set of HR practices or systems across organizations. Rather, the notions of resource-based view and dynamic capabilities point toward developing a unique and inimitable set of HR practices and systems that fit an organization’s culture and strategy (Schuler & Jackson, 1987). Further, the imperative that service-intensive organizations, such as health care organizations, face in providing exemplary quality of patient care is how to galvanize proactive work behaviors in health care employees (Korczynski, 2002; Schneider & White, 2004). This is because health care delivery involves high levels of task interdependence, task complexity and uncertainty, and it often depends on the spontaneous actions of employees as they coproduce services with their patients (Hyde, Harris, & Boaden, 2013). Thus, instead of a focus on a particular set of HR practices and systems to produce a standard employee behavior, the challenge before health care organizations is to bring about proactive employee actions and behaviors which could be accomplished by implementing a variety of HR practices and systems depending upon unique organizational strategies, cultures, and histories; there may not be a fit-all set of HR practices or HPWS (Chadwick, Way, Kerr, & Thacker, 2013; Guest, 2011; Tremblay et al., 2010; Woodrow & Guest, 2014). In short, from the perspective of HR capabilities, what is important is proactive work behaviors, but not as much as a particular set of HR practices or HPWS, which could vary from one organization to the other for eliciting high level of proactive work behaviors. Thus, by examining the mediating effect of proactive employee behaviors in this study, we respond to calls from HRM scholars for identifying mediators through which HRM may be associated with organizational outcomes that range from very proximal (i.e., HR outcomes) to more distal (e.g., quality of product/services or financial performance) (Guest, 2011; Jiang, Lepak, Hu, & Baer, 2012; Ketkar & Sett, 2009).

The organizational context has been suggested to be an important consideration in identifying the appropriate mediators of the HR-performance relationship (McClean & Collins, 2011). Proactive employee behavior seems a pre-requisite in service firms given that customer perceptions and buying behaviors are greatly affected by the employee-customer interactions (Baluch, Salge, & Piening, 2013; Guest & Conway, 2011; Korczynski, 2002; Towler, Lezotte, & Burke, 2011). The notion of proactive behavior recognizes individuals as cognitive and emotional beings who possess free will (Wright, Dunford, & Snell, 2001). For example, MacDuffie (1995) stresses the importance of discretionary behavior and argues that competitive advantage can only be achieved if the members of the human capital pool individually and collectively choose to engage in behavior that benefits the firm. In short, the impact of HR system on more distal outcomes of firm performance, that is, quality of patient care in the case of health care organizations, is likely to be mediated through the more proximal outcomes of proactive work behaviors (Baluch, Salge, & Piening, 2013; Hyde, Harris, & Boaden, 2013; Ketkar & Sett, 2009). Deriving from the above arguments, we propose the following hypotheses:

H2: Proactive work behaviors of health care employees are positively associated with the quality of patient care.

H3: The positive relationship between HR capabilities and quality of patient care in health care organizations is mediated by proactive work behaviors of health care employees.

Methods

Sample & Data Collection

Hospitals/medical centers in the United States are classified by the type of facility: children, psychiatric/mental, rehabilitation/long-term care, short-term acute care, and veteran administration. The short-term acute care represents the most common health care delivered by U.S. hospitals, and there are about 5,200 such hospitals that deliver short-term acute care. To eliminate as many possible sources of data confound/noise as possible, we surveyed senior managers of short-term acute care hospitals only. Using a stratified sampling approach, 400 acute care hospitals were selected, with 100 hospitals each from the four geographical regions of the United States: Northeast, Southeast, Midwest, and West. In addition, to gather information on hospitals serving the rural population, we used a stratified sample of 200 critical access hospitals, with 50 hospitals from each of the four geographical regions. There are about 1,280 critical access hospitals in the United States, accounting for 25 percent of all short-term acute care facilities. Thus, in all, 600 hospitals, 150 each from the four regions of the United States, were sampled for the study.

The data were collected from multiple informants to get as representative and balanced perceptions of the study variables as possible. The participants in our study were members of the top management team of the hospitals including chief executive officer (CEO), chief operating officer (COO), chief financial officer (CFO), chief human resource officer (CHRO), chief information officer (CIO), chief medical officer (CMO), chief nursing officer (CNO), and directors of radiology, laboratories, and rehabilitation.

The names and exact titles of the senior managers were collected from the directory of the *American Hospital Association*. On average, the directory listed names of about 4 senior managers for each hospital, with titles of managers varying from one hospital to the other somewhat. The directory listed names of 2,205 senior managers of 600 hospitals to whom survey questionnaires with personalized cover letters were sent through the regular mail in January and February 2012. In all, 458 completed questionnaires were received with an overall survey response rate of 20.8%. There was one respondent each from 212 hospitals, and two, three, four, and five respondents each from 70, 23, 8, and 1 hospital respectively. In all, one or more questionnaires were received from 314 hospitals, with a response rate of 52.3% at the hospital level. Seventy-nine of the respondents were CEOs of hospitals, 27 COOs, 32 CFOs, 39 CMOs, 80 CHROs, 32 CIOs, 34 CNOs, 32 Directors of Radiology, 33 Directors of Laboratories, and 33 were Directors of Rehabilitation.

We administered the survey using Dillman et al.'s (2009) total design methodology. A pre-notification letter was sent to all the informants indicating that they would receive a questionnaire in about a week's time. This letter was followed by the first wave of the survey that included personalized cover letter, the survey instrument, and the self-addressed postage paid reply envelope. The respondents were assured of the strict confidentiality of their responses. The first-wave of the survey was followed by a thank-you-cum-reminder card after about ten days. A second-wave of the survey was mailed to all participants after another 4 weeks. To enhance the response rate, the respondents were also offered a summary of the findings upon completion of the study.

The average number of employees and staffed beds in the surveyed hospitals were 1568.4 (S.D. = 2399.4) and 176.4 (S.D. = 201.1) respectively. One hundred and thirty (31%) respondents were from government-owned hospitals, 249 (59%) from not-for-profit hospitals, 13 (3%) from investor-owned (for-profit) hospitals, and 29 (7%) belonged to not-for-profit (Church-owned) hospitals. All four regions of the United States were adequately represented with 22% respondents from Northeast, 19% from Southeast, 31% from Midwest, and 28% from the West region.

Measures

The measures used in the study are provided in Appendix A. We describe them below along with the results of confirmatory factor analyses (CFA).

HR Capabilities—Based on prior research, we developed 32 items to measure three dimensions of HR capabilities (Antila & Kakkonen, 2008; Han, Chou, Chao & Wright, 2006; Murphy & Southy, 2003). The scales and items constituting them were shared with academic and practitioner colleagues for clarity and content validity. We then conducted a pilot study of short-term acute care hospitals in Missouri to test the reliabilities and validities of the scales. The questionnaires were mailed to senior managers. We received 102 completed questionnaires, which were analyzed using a combination of factor and reliability analyses for assessing the psychometric properties of the scales. The loading of the items designed to measure respective scales indicates convergent validity and breaking out of items on respective factors confirms discriminant validity (Ito et al., 2011; Sexton et al.,

2006). The analysis of preliminary data revealed 3 distinct dimensions of the HR capabilities construct with a total of 21 items (see Appendix A). The dimensions were labeled as CEO's enlightened view and support of HR department (*CEOSupport*), vision and competence of the Head of HR department (*HRHead*), and professionalism of HR staff and department (*HRDept*). The reliabilities (Cronbach's α) of the scales of HR capabilities were greater than .70.

The scales developed in the pilot study described above were used in the main study. We performed confirmatory factor analysis (CFA) on the data collected from the main study to test the factor structure of the HR Capabilities. The HR Capabilities model consisting of three first-order factors showed very good fit with the data ($\chi^2[224] = 412.50$, $p < .01$; root mean square error of approximation (RMSEA) = .05; Tucker-Levis index (TLI) = .98; comparative fit index (CFI) = .99; and goodness of fit index (GFI) = .92).

In order to keep the ratio of manifest indicators to latent constructs manageable by reducing the number of free parameters and increasing the chances of adequate model fit, we used partially disaggregated parceling for the HR capabilities construct. A parcel represents an aggregate-level indicator comprised of the average of two or more items (Falk, Hammerschmidt, & Schepers, 2010). As suggested by researchers (Bagozzi & Edwards, 1998; Hall, Snell, & Foust, 1999; Williams & O'Boyle Jr., 2008), the items combined into one parcel were unidimensional, at the same level of specificity, and independent from items in another parcel. Thus, the HR capabilities construct was modeled as a three-factor (*CEOSupport*, *HRHead*, and *HRDept*) construct. The partially disaggregated parcel model of HR capabilities showed excellent fit with the data ($\chi^2[1] = 1.79$, $p = .19$; RMSEA = .05; TLI = .99; CFI = 1.00; GFI = 1.00).

Proactive Work Behaviors—The proactive work behaviors construct is the hypothesized mediating variable of this study. The proactive work behaviors is a relatively less researched topic. Recently, we are seeing a spurt in studies examining proactive work behaviors and other similar constructs (e.g., Hyde, Harris, & Boaden, 2013; Ketkar & Sett, 2009; McClean & Collins, 2011). Given that the research on proactive work behaviors is in its infancy, the definitions and measures of proactive work behaviors are evolving at present. As such, there does not seem to be a standard measure of proactive work behaviors that may suit all studies. In this study, we have argued that *initiative* and *flexibility* are paramount in a health care context. As a result, we adopted items from other studies that emphasized initiative and flexibility in employee behaviors. We adopted two items from McClean and Collins's study ('Our employees go above and beyond the job requirements' and 'Our employees are very willing to take increasing load during challenging times'), two items from Chuang and Liao's study ('Our employees help each other out if someone falls behind in their work' and 'Our employees willingly share their expertise with coworkers'), and one item was developed in this study specifically contextualizing it to health care ('Our employees are very proactive in tackling mistakes and problems that they encounter in the healthcare delivery process'). The responses were measured using a 6-point Likert scale ranging from 1, strongly disagree, to 6, strongly agree. The Cronbach's α of the scale was .92. CFA showed an excellent fit with the data ($\chi^2[3] = 4.79$, $p = .19$; RMSEA = .04; TLI = .99; CFI = 1.00; GFI = .99).

Quality of Patient Care—The quality of patient care data for the sampled hospitals was collected in two ways: (1) quality of care reported by patients who had availed hospital services in the recent past; and (2) quality of care reported by senior managers of hospitals.

The patient-reported quality of care data came from the Hospital Compare website. The Center for Medicare and Medicaid Services (CMS) and the Agency for Healthcare Research and Quality have developed the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey to provide a standardized survey instrument and data collection methodology for measuring patients' perspectives on hospital care. The HCAHPS Survey is administered to a random sample of patients continuously throughout the year. CMS cleans, adjusts, analyzes the data, and then publicly reports the results at the Hospital Compare website. The HCAHPS survey is administered to a random sample of adult patients across medical conditions between 48 hours and six weeks after discharge; the survey is not restricted to Medicare beneficiaries. All short-term, acute care, non-specialty hospitals are invited to participate in the HCAHPS Survey. Over 4,000 hospitals participate in HCAHPS. The goal is for each hospital to get at least 300 completed patient surveys per year. We used six indicators from the HCAHPS survey to measure the quality of patient care in U.S. hospitals. The scale ranged from 1 to 100 percent. A sample item in the scale includes: 'Percent of patients who gave the hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest)'. The 6-item scale demonstrated good reliability (Cronbach's $\alpha = .93$) and the CFA results suggested a good fit of the six-item model of the patient-reported quality of care with the data ($\chi^2[6] = 8.63$, $p = .20$; RMSEA = .05; TLI = .99; CFI = 1.00; GFI = .99). Matching the survey response data to the objective hospital performance further reduced the sample size to 308 responses that were nested in 207 hospitals.

The manager-reported quality of care data were gathered through the study survey. The survey respondents (senior managers) were asked to rate the quality of patient care in their hospitals as compared to other hospitals in their state using a 3-item scale. The scale ranges from 1, low, to 10, exceptional. The scale showed satisfactory reliability (Cronbach's $\alpha = .87$) and the CFA results showed an excellent fit of the three-item model of the manager-reported quality of patient care with the data ($\chi^2[1] = .26$, $p = .61$; RMSEA = .00; TLI = 1.00; CFI = 1.00; GFI = 1.00). Matching the survey response data to the manager-reported quality of patient care reduced the sample size to 421 responses that were nested in 279 hospitals.

Control Variables—Hospital size (number of beds), type of ownership (government owned, not-for-profit, investor-owned, not-for-profit church), and the region in which hospitals were located (Northeast, Southeast, Midwest, West) were modeled as control variables in the study. Hospital size was measured as a continuous variable. Government-owned hospitals were assigned a code of 0, not-for-profit hospitals a code of 1, investor-owned hospital a code of 2, and not-for-profit (Church-owned) hospitals were assigned a code of 3. Hospitals located in the Northeast were assigned a code of 0, hospitals located in the Southeast were assigned 1, hospitals located in Midwest were assigned a code of 2, and hospitals located in the West were assigned a code of 3.

Level of Analysis

The patient-report quality of patient care data collected from the *Hospital Compare* website was available at the hospital-level. In this study, HR Capabilities, proactive work behaviors, and manager-reported quality of patient care were measured at individual level. Since we had conceptualized these variables at the firm-level, their aggregation was required for further analyses. We justified aggregation statistically by examining the $r_{wg(j)}$, and the intra-class correlation coefficient (ICC1) of the variables for all respondents from a particular hospital. We had 308 individuals nested in 207 hospitals, about 1.5 people per hospital, for the data collected from the Hospital Compare website. For the data collected from the managers, we had 421 responses nested in 279 hospitals, about 1.4 responses per hospital. ICC2 values are dependent on the number of respondents per group and are usually low when the number of unique respondents per group is small (Bliese, 2000; LeBreton & Senter, 2008). In such situations, ICC2 values may not provide usable information as we have so few situations with multiple observations nested within a hospital. However, in those instances where we do have multiple raters, the ICC1 values may be interpreted as the proportion of variance in perceptions of variables that is attributed to nesting within hospitals. We, therefore, considered $r_{wg(j)}$ and ICC1 values for justification of aggregation.

For HR capabilities, the values of $r_{wg(j)}$ and ICC1 were .84 and .30. The values for proactive work behaviors were .95 and .44 respectively, and for manager-reported quality of patient care were .88 and .35. The values of $r_{wg(j)}$ and ICC1 for all the three variables were above the threshold of .70 and .12 suggested in the literature (Bliese, 2000; LeBreton & Senter, 2008), thereby providing evidence for the substantial variance in study variables that can be explained at the hospital level, and thus lending support to aggregating individual data to the hospital level.

Results

The analyses of the data were performed at the hospital level. We constructed and analyzed two structural models. The first structural model (M1) contained manager-reported quality of care as the dependent variable while the second structural model (M2) had patient-reported quality of care as the dependent variable (see Figures 1 & 2). Covariance-based latent variable structural equation modeling (SEM) was adopted to test the proposed hypothesis. SEM tests the sequential relationships between the independent and dependent variables in a single analysis and allows specification of both measurement and structural relationships. The common method bias was controlled both procedurally and statistically (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Procedurally, it was controlled by ensuring the anonymity of respondents and strict confidentiality of their responses. Statistically, it was controlled by making use of SEM, with all indicator variables loading on an orthogonal latent common method factor. A path analytic model of structural equation modeling was used to test the sequential relationship as hypothesized. AMOS 22 software package was used to analyze the data.

Common-Method Bias and Validities of Constructs

Table I presents the descriptive statistics as well as inter-construct correlations for the two structural models (M1, M2). Model 1 (M1) comprised of control variables, HR capabilities, proactive work behaviors, and manager-reported quality of patient care whereas model 2 (M2) had control variables, HR capabilities, proactive work behaviors, and patient-reported quality of patient care variables. Inter-construct correlations for M1 are given in *italics* in the lower part (below the diagonal) of correlation table. Inter-construct correlations for M2 are given in the upper part (above the diagonal) of correlation table. Means (M) and standard deviations (SD) for variables were reported on overall sample. Overall, the results of scale reliability assessment point to desirable psychometric properties of our measures. In particular, Cronbach's α and composite reliability values were well above the suggested minimum value of .70 (Anderson & Gerbing, 1988; Nunnally & Bernstein, 1994).

The convergent and discriminant validities of the constructs were tested by CFA. The hypothesized measurement model using the manager-reported quality of patient care (M1) fitted very well with the data ($\chi^2[37] = 105.19, p < .01$; RMSEA = .08; TLI = .96; CFI=.97; GFI = .94). We examined the discriminant validities between the latent constructs by applying the Fornell and Larcker (1981) test. This test requires average variance extracted (AVE) of each construct to exceed the square of correlations shared between the latent constructs. Table I showed that AVE of each construct of M1 was greater than .5 and also greater than the square of correlations between constructs. Next, we compared the hypothesized measurement model with the model where the correlation between the constructs is constrained to unity (Anderson & Gerbing, 1988). The χ^2 -difference test was significant ($\chi^2[3] = 88.81, p < .001$) suggesting that the correlation between the constructs significantly differs from 1. To reduce the shared method variance, we followed Podsakoff et al.'s (2003) recommendations of separating antecedents from outcomes in the survey, ensuring anonymity and confidentiality of their responses, and receiving surveys in sealed envelopes directly to the researchers' address. To verify whether these procedures successfully reduced shared method variance, we re-estimated the CFA model including an additional orthogonal latent method factor related to all items (Podsakoff et al., 2003). This model produced fit ($\chi^2[36] = 104.67, p < .01$; RMSEA = .08; TLI = .95; CFI=.97; GFI = .94) that was not significantly better than the model without common method factor ($\chi^2[1] = .52, p < .05$). The average variance extracted by the method factor was about 2.6%. All indicators exhibited significant ($p < .01$) relationships with their intended latent constructs. In order to still account for the influence of common method bias, we performed hypotheses testing using the measurement models with a common method factor.

A similar set of analyses were performed for M2. The hypothesized measurement model using the patient-reported quality of patient care showed very good-fit with the data ($\chi^2[68] = 116.85, p < .01$; $\chi^2/df = 1.72$; RMSEA = .06; TLI = .97; CFI=.98; GFI = .93). AVE of each construct was greater than .5 and was greater than the square of correlations between constructs. Next, we compared the hypothesized measurement model with the model where the correlation between the constructs is constrained to unity (Anderson & Gerbing, 1988). The χ^2 -difference test was significant ($\chi^2[3] = 42.76, p < .001$) suggesting that the correlation between the constructs significantly differs from 1. The measurement model after

including an additional orthogonal latent method factor related to all items produced a good fit with the data ($\chi^2[67] = 116.20, p < .01; \chi^2/df = 1.73; RMSEA = .06; TLI = .97; CFI = .98; GFI = .93$). The average variance extracted by the method factor was about 9.4%. All indicators exhibited significant ($p < .01$) relationships with their intended latent constructs. In order to account for the influence of common method bias, we performed hypotheses testing using the measurement models with a common method factor.

Sub-Sample Analysis

Given that we performed the overall analysis combining the responses of administrators (i.e., CEO, COO, CHRO, CFO and CIO) and clinicians (i.e., CMO, CNO, Director of Radiology, Director of Laboratory and Director of Rehabilitation), it was important to check whether the two categories of respondents had different views of proactive work behaviors and quality of patient care. We divided the sample into two categories viz., administrators and clinicians in order to achieve substantial sample sizes to perform sub-sample analysis in SEM. The sample size of administrators was 250 and that of clinicians was 171. The results of sub-sample analysis showed that the model with measurement and structural weights (of path linking HR capabilities, proactive behavior and manager-reported quality of patient care) constrained to be equal was substantially better ($\chi^2 [11] = 22.10, p < .05$) than the unconstrained model. The results thus showed that there were no significant differences in the relationships between study variables as reported by the two groups. This was also substantiated by the fact that we had found significant within group agreement and had aggregated the responses to the hospital level (please refer to the Level of Analysis section above).

Test of Hypotheses

The structural model comprising of HR capabilities, proactive work behaviors, manager-reported patient of quality care, and common method latent factor showed very good fit with the data ($\chi^2[36] = 104.67, p < .01; TLI = .95; CFI = .97; RMSEA = .08; GFI = .94$). From the SEM results of Figure 1, we see that HR capabilities were positively related to proactive work behaviors ($\beta = .42, p < .01$). Proactive work behaviors were positively related to the manager-reported quality of patient care ($\beta = .46, p < .01$). Proactive work behaviors were found to partially mediate the relationship between HR capabilities and the manager-reported quality of patient care. The direct path between HR capabilities and manager-reported quality of patient care was significant ($\beta = .16, p < .05$) in the presence of proactive work behaviors. The indirect effect of HR capabilities on the manager-reported quality of care was .37 (standardized indirect effect = .20) with the 95% bootstrap confidence interval being .04 to .71. The bootstrap test showed that the indirect effect of HR capabilities on manager-reported quality of patient care was positive and significant.

The same sequence of steps was followed for the second model (M2) comprising of HR capabilities, proactive work behaviors, patient-reported quality of patient care, control variables and the common-method factor. The structural model with the patient-reported quality of care in Figure 2 showed very good fit with the data ($\chi^2[103] = 243.50, p < .01; \chi^2/df = 2.36; TLI = .93; CFI = .94; RMSEA = .08; GFI = .88$). HR capabilities were positively related ($\beta = .54, p < .01$) to proactive work behaviors. Proactive work behaviors

were positively related ($\beta = .22, p < .01$) to patient reported quality of care. Figure 2 showed that proactive work behaviors fully mediate the relationship between HR capabilities and the patient-reported quality of patient care. The direct path between HR capabilities and the patient-reported quality of care in the presence of proactive work behaviors was insignificant ($\beta = .01, n.s.$). The indirect effect of HR capabilities on the patient-reported quality of care was .63 (standardized indirect effect = .12) with the 95% bootstrap confidence interval being .01 to 1.64. The bootstrap test showed that the indirect effect of HR capabilities on manager-reported quality of patient care was positive and significant. The models in Figure 1 and Figure 2, thus, provided support for Hypotheses 1, 2 and 3.

Discussion

There has been a growing research interest in understanding the ‘black box’ of HRM. The literature on HRM has urged scholars to identify and empirically study the various mechanisms through which HRM may influence organizational outcomes, such as the quality of products/services or financial performance (Guest, 2011; Jiang, Lepak, Hu, & Baer, 2012). Our study contributes to this stream of research by presenting evidence that proactive work behaviors play a crucial role in health care organizations, specifically hospitals, where interactions of employees with customers underpin organizational performance. We examined how proactive work behaviors may mediate the relationship between HR capabilities and quality of patient care. In order to do this, we specifically examined: (i) the direct relationship of HR capabilities of health care organizations with the quality of patient care, (ii) the relationship of proactive work behaviors of hospital employees with the quality of patient care, and (iii) the indirect relationship of HR capabilities with quality of patient care mediated by proactive work behaviors. Given the critical role that employees play in the service industry, and especially in hospitals where their role takes on special significance, it is of utmost importance that we better understand the mechanisms through which they are motivated to better serve the customer, often of their own volition.

Our findings lend support to the theory of dynamic capabilities (Teece, 2007; Teece, Pisano, & Shuen, 1997). We provide preliminary evidence that building HR capabilities may help organizations improve quality of their services. HR capabilities may influence organizational performance directly as well as indirectly via encouraging proactive work behaviors in their employees. We believe that HR capabilities are especially important in a highly people-intensive and service context, such as hospitals. For example, the wages constitute about 65 to 80 per cent of the operating budget in typical health care organization. Thus, if hospitals want to provide high quality health-care at affordable cost, they need to pay far more attention to their human resources than they have done in the past.

The study findings corroborate the behavioral perspective on human resource management (Schuler & Jackson, 1987) by providing evidence that proactive work behaviors play an important role in health care delivery process. To boost quality of patient care, hospitals may need to pay attention to imparting flexibility and initiative in their employees.

We propose a new construct of HR capabilities in hospitals that has three dimensions: (1) CEO's enlightened view and support of HR, (2) HR head's vision and competence, and (3) professionalism of HR staff and HR department. Next, we examined the psychometric properties of these scales extensively using confirmatory factor and reliability analyses. Our analyses suggest that these scales of HR capabilities are robust and we do not envisage any problems if the scales are used in future studies. The three dimensions of HR capabilities proposed in the study are consistent with the notions of both resource-based view and dynamic capabilities meaning that health care organizations higher on these HR capabilities will be able to acquire, develop, renew, reconfigure, and deploy human resources more effectively than organizations lower on these capabilities. The measures of three capabilities developed in this study index the level of these capabilities/mechanisms. We do not directly ask respondents whether HR activities/practices of their organizations enable them to acquire, develop, renew, reconfigure, and deploy human resources more effectively. Asking respondents direct questions of this nature may be another promising way to tap HR capabilities. Perhaps future studies could employ this approach².

We collected data on quality of patient care in hospitals using two different sources: patients and senior managers of hospitals. The mediating influence of proactive work behaviors in the positive relationship between HR capabilities and quality of patient care was confirmed using both measures of quality, thus imparting greater confidence in this finding than if we had used only one measure of quality. However, regarding the direct relationship of HR capabilities with quality of patient care net of mediating variable, the two measures did not converge. The direct relationship between HR capabilities and quality of care was positive and significant in the case of manager-reported quality of care but insignificant in the case of patient-reported quality of care. A plausible explanation for this finding is that patients may be influenced more by the service component than the technical component of the quality of care, whereas managers have a more holistic understanding of the quality of care provided in a hospital including both technical and service components (Fottler et al., 2006). The patients' perception of the quality of care, thus, might not have captured fully the nuances of the delivered care. We concur with Fottler et al. (2006) that diversification of data sources beyond patient surveys can be a useful strategy for both researchers and practitioners.

Practical Implications

From a practical perspective, our findings offer several specific suggestions for health care administrators, specifically in hospitals. First, it is clear that by employees in hospitals play a bigger role in the success of the organization than in other industries, including other service industries. Thus, hospitals need to pay particular attention to the critical role played by employees in delivering efficient and safe patient care. In order to achieve this, three critical issues will need to be addressed: (i) first, the CEO needs to play the role of the champion, as this would help to provide leadership and critical resources to the HR function, in addition to sending a clear message to the rest of the organization about the importance of HR. Next, the role of the HR head is almost as critical as that of the CEO in making sure that the HR function is able to play a strategic role in organizational performance. Thus, if hospitals are to capitalize on their employee capabilities, it is critical that attention is paid to finding the

right individual to head the HR function, and empowering him/her so he/she is able to perform his/her role to the best of their abilities.

Next, a successful HR department should have highly professional and competent HR employees who are capable of modifying, reconfiguring, and renewing HR practices and systems as needed, based on the prevailing strategy and culture of the organization. Finally, if employees are expected to be at the forefront of the customer experience, they will have to be offered the requisite training and compensation, so that their own job satisfaction is at the highest levels, since their own behavior/satisfaction will determine the level of customer satisfaction.

Limitations and Suggestions for Future Research

This study had some limitations, which need to be addressed. First, we sampled senior managers of hospitals with diverse titles representing both administrative and clinical sides. While this allowed us to get a wide range of perspectives, we do recognize that participants were providing information on HR capabilities, from an internal customer, rather than an expert, perspective. Perhaps, future studies could limit their sample to HR professionals alone.

Next, in this study, we have examined only one facet of hospital performance, namely, the quality of patient care. The financial health, measured through return on assets and growth in revenue, and range of services as reflected in overall patient volume are other key indicators of performance. We hope future studies will examine these relationships.

Also, we investigated only a limited facet of employee behaviors, employee initiative and flexibility, but not the full range of human capital (employee skills, attitudes, and behaviors) (Wright & McMahan, 2011), that may impact the quality of patient care. Future studies should consider including employee skills and attitudes.

While we asserted in this study that the proper implementation of HR practices may depend upon HR capabilities, we did not test this assertion. That is why we did not operationalize/measure implementation aspects of HR practices in this paper. We think that effective implementation of HR practices/systems should not be taken for granted and is an important area for future research; effective implementation of HR practices and systems can be quite elusive and complicated (Guest & Conway, 2011; Woodrow & Guest, 2014). HR capabilities proposed in this study may increase the implementation effectiveness of HR practices/systems to a significant extent.

Next, the present study was cross-sectional in nature, thus restricting our ability to make causal inferences. Future studies should test the relationships between HR capabilities, proactive work behaviors, and quality of patient care using other study designs, like longitudinal studies, in order to better understand the impact of HR capabilities on quality of patient care. Also, in-depth case studies are likely to be very appropriate for studying the processes through which HR capabilities influence proximal and distal organizational outcomes.

Finally, since our data were collected from hospitals in the USA, our findings can best be generalized to hospitals in countries where the healthcare systems operates similar to the USA, given the strong contextual nature of the healthcare industry.

Conclusion

In the present study, we sought to advance research in the field of strategic HRM by developing a multidimensional construct of HR capabilities and testing its relationship with quality of patient care and proactive work behaviors of health care professionals in the hospital setting. We found three dimensions of the construct that showed good psychometric properties. Our analyses, using a national sample of U.S. hospitals, revealed that the positive relationship of HR capabilities with quality of patient care is mediated by proactive employee behaviors. The study findings support our main thesis that HR capabilities play a crucial role in improving the quality of patient care in U.S. hospitals and thus could be a source of sustainable competitive advantage for these organizations.

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APPENDIX

Items for Primary Measures

(Unless specified, all scales use a Likert format ranging from 1 to 6; 1, Strongly Disagree, and 6, Strongly Agree)

HR CAPABILITIES OF THE HOSPITALS

CEO’s Enlightened View and Support of HR (*CEO Supp*)

1. The head of HR interacts with the CEO frequently and understands the priorities and strategic initiatives of the CEO very well.
2. The head of HR is an important member of the top management team.
3. HR plays a critical role in implementing major strategic initiatives of the hospital.
4. The hospital CEO realizes fully the important role that HR can play in health care delivery processes.
5. The CEO provides whole-hearted support and resources to HR activities and programs.
6. The CEO views HR function more of an administrative function than a strategic/transformational function.

HR Head’s Vision and Competence (*HR Head*)

1. The head of the HR department in my hospital has a compelling vision of how to use HR to enhance hospital performance.
2. The head of HR department in my hospital spends much time and effort in building relationships with senior managers of all the departments in the hospital.

3. The head of HR department in my hospital understands the fundamentals of the health care delivery process (e.g., patient needs and concerns, hospital operations, etc.).
4. The head of HR in my hospital understands the unique operating characteristics of all the departments in the hospital.
5. The head of HR in my hospital possesses a thorough knowledge of the health care industry.
6. The head of HR in my hospital has developed a well-understood HR strategy for the hospital.

Professionalism of HR Staff and HR Department (*HR Dept*)

1. HR employees have a thorough expertise in HR (e.g., knowledge of HR activities, such as recruitment, training, compensation, performance management, etc.).
2. HR employees have a solid understanding of psychological and social behaviors of the hospital staff.
3. HR employees are very knowledgeable in change management.
4. HR employees understand overall strategy, culture, and operations of the hospital very well.
5. HR employees have developed an excellent rapport with other departmental heads and employees in the hospital.
6. HR department has developed effective in-house tools (e.g., valid recruitment methods, effective training programs, fair and effective reward systems, etc.)
7. HR department is very proactive and quick in adapting to employee problems and concerns.
8. HR department is staffed with highly professional and courteous employees.
9. The policies and procedures coming from the HR department help administrators, clinicians, and other employees perform their jobs efficiently.
10. The HR policies and practices enable my hospital achieve its mission and strategic objectives.
11. The HR department of my hospital is very responsive to the needs of the unit/departmental managers, clinicians, and other hospital staff.
12. The HR department provides useful and timely information and expertise on HR issues to the unit managers and employees.

PROACTIVE WORK BEHAVIORS¹

1. Our employees go above and beyond the job requirements. (PWB1)

2. Our employees are very willing to take increasing load during challenging times. (PWB2)
3. Our employees help each other out if someone falls behind in their work. (PWB3)
4. Our employees willingly share their expertise with coworkers. (PWB4)
5. Our employees are very proactive in tackling mistakes and problems that they encounter in the healthcare delivery process. (PWB5)

PATIENT-REPORTED QUALITY OF PATIENT CARE

Quality of Patient Care (Patient Reported Data from the *Hospital Compare* website)

(The scale ranged from 1 to 100 percent)

1. Percent of patients who reported that they “Always” received help as soon as they wanted. (O1)
2. Percent of patients who reported that their doctors “Always” communicated well. (O2)
3. Percent of patients who reported that they “Always” received help as soon as they wanted. (O3)
4. Percent of patients who reported that staff “Always” explained about medicines before giving it to them. (O4)
5. Percent of patients who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest). (O5)
6. Percent of patients who reported YES they would definitely recommend the hospital. (O6)

MANAGER-REPORTED QUALITY OF PATIENT CARE

Compared to other hospitals (short-term acute care facilities) in your state, how does your hospital compare on the following indicators?

(The scale ranges from 1, *low*, to 10, *exceptional*)

1. Quality of patient care (P1)
2. Patient satisfaction (P2)
3. Public image of goodwill (P3)

¹Items 1 & 2 adapted from McClean & Collins (2011), Items 3 & 4 from Chuang & Liao, 2010), and Item 5 is a new item developed specifically for this study.

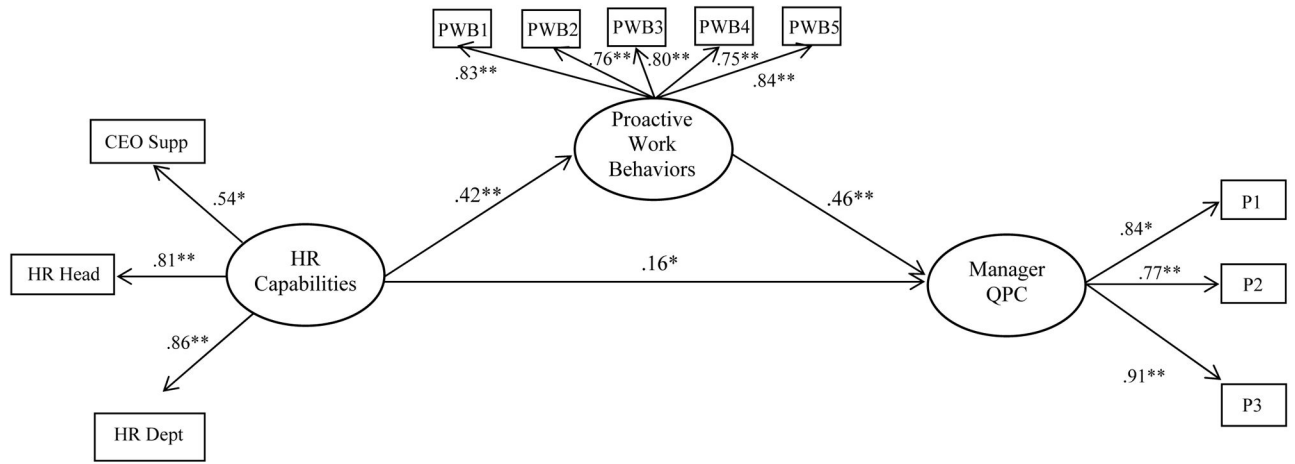


FIGURE 1. Structural Model with Manager-Reported Quality of Patient Care

Note. Manager QPC = Manager-Reported Quality of Patient Care.

All reported coefficients are standardized path coefficients.

N = 279; ***p* < .01; * *p* < .05

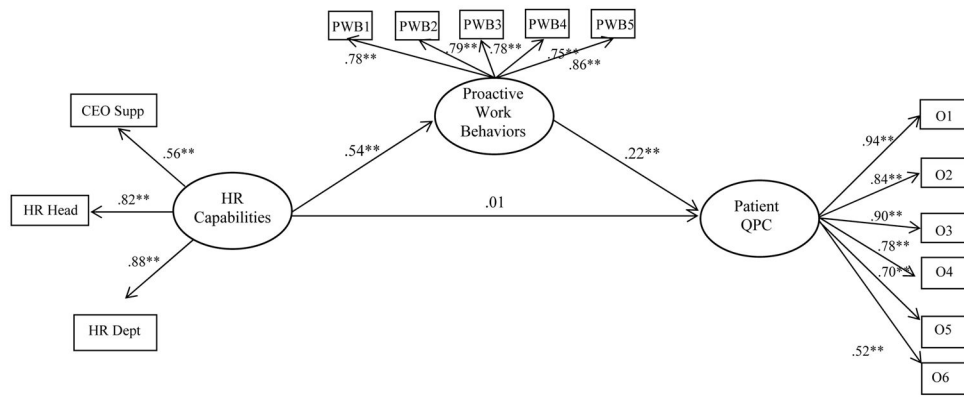


FIGURE 2. Structural Model with the Patient-Reported Quality of Patient Care

Note. Patient QPC = Patient-Reported Quality of Patient Care (data collected from Hospital Compare Website).

Control variables (Bed size, ownership, region of location) and common method latent factor are not shown for ease of presentation. All reported coefficients are standardized path coefficients.

N = 207; ***p* < .01; * *p* < .05

Descriptive Statistics and Inter-Construct Correlations

TABLE I

Variables	M	SD	CR ^a (M1)	AVE ^b (M1)	1	2	3	4	5	6	7	CR (M2)	AVE (M2)	
1. Ownership	3.78	24.3	--	--	--	.13	-.04	.11	.004	--	-.17*	--	--	
2. Number of Beds	176.2	201	--	--	<i>.17**</i>	--	<i>-.23**</i>	-.01	-.07	--	<i>-.37**</i>	--	--	
3. Region	2.61	1.10	--	--	<i>-.10</i>	<i>-.26**</i>	--	-.01	<i>.18*</i>	--	.12	--	--	
4. HR Capabilities	4.78	.86	.85	.66	<i>.10</i>	<i>.07</i>	<i>.01</i>	--	<i>.48**</i>	--	.10	.87	.66	
5. Proactive Work Behaviors	4.80	.78	.94	.75	<i>.01</i>	<i>.02</i>	<i>.09</i>	<i>.45**</i>	--	--	<i>.26**</i>	.94	.70	
6. Quality of patient care-manger reported (QC-MR)	7.59	1.52	.79	.56	<i>.07</i>	<i>-.16**</i>	<i>.11</i>	<i>.36**</i>	<i>.55**</i>	--	--	--	--	
7. Quality of patient care-patient reported (QC-PR)	71.32	5.57			Not Present in Model 1								.91	.63

Note:

Model 1 (M1): Model comprising of control variables, HR capabilities, proactive work behaviors, and manager-reported quality of patient care (QC-MR) (N = 279)

Model 2 (M2): Model comprising of control variables, HR capabilities, proactive work behaviors, and patient-reported quality of patient care (QC-PR) (N = 207) Inter-construct correlations for M1 are given in *italics* in the lower part (below the diagonal) of correlation table.

Inter-construct correlations for M2 are given in the upper part (above the diagonal) of correlation table. Mean (M) and standard deviation (SD) for variables were reported on overall sample.

^aCR: Composite Reliability;

^bAVE: Average Variance Extracted

** p < .01 (two-tailed);

* p < .05 (two-tailed)