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**Dissertation, presented as part of requirements for the Degree of Doctor of  
Philosophy in Management**

**Performance of healthcare organizations:  
contributing variables to efficiency and quality**

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## Abstract

The transition from volume-based healthcare to value-based healthcare has been the major challenge of National Health Systems. Nevertheless, some variables that might contribute to bring together healthcare professionals and healthcare challenges have been overlooked. Study A, the first of three studies, conducted in a primary healthcare setting, revealed that perceived and objective organizational performance is predicted by *sense of community*, which simultaneously mediates the relationship between workgroup and performance. Study B provides a definition of hospital organizational integration (HOI) by exploring which change initiatives undertaken by hospitals are contributing to healthcare integration and by explaining how these initiatives are connecting and bringing together different levels of healthcare. Study C concludes that HOI increases both sides of organizational outcomes: efficiency and quality. The study also revealed that relational coordination (RC) only produces a positive impact on quality (perceived performance) and that the influence of HOI and RC on performance is mediated by workplace spirituality and work engagement.

**Keywords:** workplace spirituality, hospital organizational integration, work engagement, relational coordination, organizational performance





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# 1

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Introduction

*How can I be useful, of what service can I be? There is something inside me, what can it be?*

Vincent Van Gogh



# 1. Introduction

## 1.1. Organizational setting

Different original settings develop into two types of organizational structures, technical and institutional (Meyer & Rowan, 1991). The first one, the technical setting, works with the market and management can easily find tools to monitor and measure its productivity. The efficiency of the technical structure is vital to its survival and success depends mainly on the client. Organizational production works closely with the clients' needs and must be competitive and efficient to win the market.

On the other hand, efficiency does not play the main role in institutional contexts, where the crucial values relate to social recognition and legitimacy, created through relational rules and procedures. Therefore, the mission of this type of organization is to create collective values that transcend individual interests and structure the society, overshadowing the principles of efficiency (Scott & Meyer, 1991). Although with different rationalities those two types of structures coexist.

This dissertation was conducted in two institutionalized contexts: primary and secondary healthcare. Both settings suffer the pressures from the two contexts mentioned above, technical and institutional, respectively, the pressure of efficiency and of social legitimacy. Therefore they should seek to combine efforts to deliver their productivity satisfying all their different stakeholders. For example, on one hand, patients have the social right to healthcare, and, on the other hand, the government has the duty to serve them without neglecting efficiency, which means saving public funds and also allow serving more patients.

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### **1.2. Healthcare challenges**

As already mentioned, the present dissertation relies on healthcare organizations, which are characterized by high levels of uncertainty concerning the productive activity. On the top of this, they usually have a poorly articulated system between the different units, which some authors call loosely coupled systems (Orton & Weick, 1990) or professional bureaucracies (Mintzberg, 1982). This lack of articulation leads to one of the main challenges of healthcare organizations: integration. Integrated health systems are considered part of the solution to the challenge of providing care with quality and efficiency (Suter et al., 2009). The number of doctors that we visit during a lifetime helps to illustrate the need for healthcare integration. American patients have seen an average of 18.7 different doctors during their lives, according to a survey conducted by GfK Roper (2010) for Practice Fusion, the free, web-based Electronic Health Record (EHR) company. For patients over 65 years of age, the average increases to 28.4 individual doctors, including primary care, specialists, hospital and urgent care providers.

Simultaneously, the need to use a great array of services more frequently makes care coordination more difficult. Also, the presence of multiple chronic conditions also increases in-patient costs for ambulatory care sensitive conditions via longer hospital stays (Vogeli *et al.*, 2007; Skinner, *et. al.*, 2016). Alemayehu & Warner (2004) predict in their study that per capita lifetime expenditure is \$316,600, a third higher for females (\$361,200) than males (\$268,700). Two-fifths of this difference owes to women's longer life expectancy. Nearly one-third of lifetime expenditures is incurred during middle age, and nearly half during the senior years. For survivors to age 85, more than one-third of their lifetime expenditures will accrue in their remaining years. Since the proportion of the population diagnosed with chronic conditions increases with age (Bodenheimer *et. al.*, 2009) these numbers may be a confirmation that the highest cost share is associated with chronic diseases.

Accordingly, to manage health services efficiently, an efficient chronic disease management is needed, which leads to the concept of illness trajectories, a way of coordinating care that focuses on the entire clinical course of a disease, across care networks and with the patient more actively involved (Corbin & Strauss, 1991). Illness trajectories not only refer to the physiological situation of an individual disease, but also to the organization alongside the different stages of the disease, and the impact in everyone involved (both people and institutions). On one hand, healthcare processes include different medical and nursing actions with different types of competences, resources and tasks and, on the other hand, organizations with different roles.

Additionally, in order to overcome the lack of integration, healthcare organizations should improve their relational coordination, since it is also associated with organizational outcomes, in what concerns both quality and efficiency. Jody Gittel suggests that “the theory of relational coordination specifically proposes that both quality and efficiency outcomes can be improved simultaneously, going beyond the trade-offs between quality and efficiency that are typically found, by enabling participants to achieve better results for customers while engaging in a less wasteful and more productive utilization of resources.” (Gittel, 2011:402).

Consequently, the need to integrate all healthcare providers emerges as a priority in order to achieve quality and effectiveness and, ultimately, the underlying assumption of healthcare services: generate health gains.

### **1.3. Measures of performance in healthcare**

Performance can assume different meanings depending namely on the context and on desired goals. According to Quinn & Rohrbaugh (1983) competing values model, three major dimensions lead to effectiveness criteria. The first (focus) and second (structure)

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dimensions have one axis each. If the axis of the first dimension is toward the left, considering the center, then the organization places its emphasis in an internal person-oriented criterion. If the axis is toward the right, then the emphasis lies on external organization-oriented criteria. On the other hand, if the axis of the second dimension is toward the bottom, than focus is on stability and control, if it is toward the top then the focus is on flexibility. The third dimension represents the organizational focus on the ends or on the means. Accordingly, the model provides two dilemmas that concern four different models. The first dilemma lies between humans relations model (human resources development through cohesion and morale) and rational goal model (productivity and efficiency through planning and goal setting). The second dilemma lies between an open system model (Growth and resource acquisition through flexibility and readiness) and an internal process model (stability and control through information management and communication).

This dissertation consists of three studies conducted in public healthcare organizations. Specifically, the first study occurred in a primary healthcare setting, namely in health centres and family health units, and the second and third ones, in a large hospital. In line with the last paragraph, these organizations also experience dilemmas whether to make the axis move toward the human relations or rational goal models. If, on one hand, robust human resources are needed, which means skilled and motivated healthcare professionals, on the other hand, public healthcare organizations should consider the health needs of the population in general, when deciding management efforts. This dilemma is amplified when we consider the institutional nature of public healthcare organizations, which struggle to combine this context with the technical one.

Therefore, according to the criteria of each health stakeholder, performance gains different meanings. Healthcare performance has also become a matter of widespread concern due to

stricter resources and extensive reform, which led to greater concerns from many stakeholders, such as patients, the public, health professionals and payers (Minvielle et al., 2008). Such situation led healthcare services, namely primary and secondary care, to shape performance outcomes able to fulfil several purposes. Nevertheless, this mission relies on the combination of competing values, which results in an extremely challenging goal.

The lens present in the work of Bunderson (2001) explains how work ideologies influence healthcare professionals performance, and also helps to illustrate the complexity that hospitals managers could face concerning human resources management. The author suggests that the psychological contract between a professional and his/her employing organization is shaped by both professional and administrative work ideologies. These two work ideologies differ mainly in regard to the nature of the employment contract. On one hand, administrative ideology is predominantly transactional, and the organization is seen as an economic business with employees. On the other hand, professional ideology is predominantly relational in a professional work setting with highly trained professionals. Consequently, these work ideologies shape the relationship between a professional and an employing organization by suggesting a set of a priori expectations about roles, rights, and obligations. Using data obtained from medical professionals, one of the major findings of the Burderson's (2001) study was that perceived breaches of professional role obligations are most strongly associated with lower organizational commitment and job performance (productivity and client satisfaction).

### **1.4. About this dissertation**

This dissertation starts with study A, which encompasses a comparison between two types of teams that represent the primary healthcare of the National Health Service. This study aims to explore the impact of workplace spirituality on objective and perceived

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performance. Subsequently, influenced by healthcare challenges literature, the research includes study B, which is a qualitative one, that explores which change initiatives undertaken by hospitals are contributing to healthcare integration, by explaining how these initiatives are connecting and bringing together different levels of healthcare. Study B also provides a definition of hospital organizational integration. Finally, study C analyses the relationship of hospital organizational integration and relational coordination with both objective performance outcomes, which measure efficiency, and perceived performance outcomes, which measure service quality. The double mediating role of workplace spirituality and work engagement is also analysed. In studies B and C, the research assumed a mixed method approach, by using the strategy entitled “Mixing methods to ask questions about connecting parts, segments or layers of a social whole” (Mason, J. 2006:6) which aims to be an integrative analysis of the different forms of data, in order to discover what parts of the different layers of data play a significant role in the overall story.

# 2

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## Study A

Primary health care services:  
workplace spirituality and organizational performance

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*Wherever the art of Medicine is loved, there is also a love of Humanity.*

Hippocrates



## 2.1. Abstract

The paper aims to study the influence of three dimensions of workplace spirituality (inner life, meaningful work and sense of community) on perceived and objective organizational performance in two primary healthcare settings: health centres (HCs) and family health units (FHUs), differing in terms of work organization. Data on workplace spirituality and perceived organizational performance were collected from a sample of 266 healthcare workers (doctors, nurses and administrative staff). Data on objective performance were obtained from the respective Regional Health Authorities. Multiple regression, GLM, and Tests of Mediation were carried out. In both groups, perceived and objective organizational performance are predicted by *sense of community*. Additionally, FHU's presented significantly higher values in perceived and objective organizational performance, as well as in *sense of community* and in *meaningful work*. Finally, workplace spirituality and sense of community were found to mediate the relationship between work group and perceived and objective organizational performance.

**Keywords:** workplace spirituality, inner life, meaningful work, sense of community, organizational performance, primary healthcare, health centres, family health units.

## **2.2. Introduction**

An important business trend amidst the current crises in the Western and, particularly, European economies, is to stress the need for organizations to be flexible in adjusting to their changing environments. Effective organizations are defined as those that assess the information on the expectations of their stakeholders and then adopt internal processes, objectives, and values that meet these expectations (Cameron, 1998).

Along these lines, the search for organizational effectiveness and efficiency has reinforced the role of employee commitment and creativity, and triggered a stream of research on work arrangements that improve the human experience, such as those that focus on workplace spirituality, to encompass employees' search for meaning and purpose at work as well as a meaning to their lives (Izak, 2012; Duchon & Plowman, 2005; Fry, 2003; Ashmos & Duchon, 2000) and its potential impact on organizational performance (Elm, 2003; Garcia-Zamor, 2003).

In this paper, we study the extent to which spirituality exists in the specific context of primary healthcare organizations. In most European countries access to healthcare is universal and free. Reducing the high costs and their impact in national budgets, while maintaining quality and responsiveness, is a major concern for governments and healthcare organizations alike. In Portugal, for example, a new element was introduced for primary healthcare services, emphasizing the team dimension. This was the Family Health Unit (FHU), now added to the traditional Primary Healthcare Units (hereinafter "Health Centers" – HCs). We analysed and compared the effect of workplace spirituality in the performance of these two types of work arrangements, in a quasi-field experimental setting and test whether workplace spirituality mediates the relationship between these two types of work group and organizational performance.

We contribute to the literature in workplace spirituality and organizational change management in several ways. First, we use both perceived and objective organizational performance indicators as criteria. Second, we conducted our research within two types of organizations, one of them recently introduced in the Portuguese National Health Service. We therefore have two organizational models to provide the same type of services. Third, we used a combination of research methods, i.e. a survey, objective data from an independent source, and also some clarifying semi-structured interviews. In the next sections we review the literature on workplace spirituality and its importance in the primary healthcare services. We then describe the methodology and results, and discuss our major findings.

### **2.3. Spirituality in organizations**

For a decade, the theme of spirituality in the corporate world has captured the attention of researchers. Earlier the theme was considered by many to be exclusively religious or mystical, but is now regarded as an integral factor of the organizational arena, "*spirituality at work is helping employees, managers and business leaders all over the world find deeper meaning - and deeper rewards - from the workplace*" (Laabs, 1995, p. 60).

The literature refers to workplace spirituality by different (synonymous) terms - organizational spirituality, spirituality at work, workplace spirituality, spirit at work, and spirituality in business (Brown, 2003). More specifically, spirituality at work concerns the fact that employees have spiritual needs, and want to experience a sense of purpose and meaning in their work and a sense of connection with other people and with their work community (Ashmos & Duchon, 2000), which underscores the multidimensionality of the concept. Lazar (2010), Heaton et al. (2004), and Elkins et al. (1988) have also argued that spirituality encompasses different components.

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The concept of spirituality has numerous definitions. Some consider it as “*a behaviour (the personal expression), others as an objective reality (that which involves ultimate and personal truths), others specifically describe it as “a subjective experience”*” (Giacalone and Jurkiewicz, 2003, p. 6).

Mitroff et al. (1994) argue that organizations should recognize the spiritual dimension of organizational life and that leading the search for meaning in day-to-day issues of the organization helps in dealing with some of the major problems of mankind. Benefiel (2003), on the other hand, mentions the need for some philosophical work to integrate the discourse of spirituality with that of organizational science and calls for the development of new research methods to seriously tackle the importance and validity of spirituality at work. Delbecq (2010) describes how corporate spiritual culture can be expressed, in a multilevel perspective that includes the aggregate organization – visible beliefs and values, organizational teams, and individual leaders.

This lack of a consensus on the definition of spirituality can result in a conceptual impediment to understand spirituality at work. Nevertheless, the literature of spirituality at work include aspects as meaning, purpose, and connection to others (Giacalone & Jurkiewicz, 2003; Ashmos & Duchon, 2000; Vaill, 2000; Mirvis, 1997; Conger, 1994). Thus, an emerging definition of spirituality in organizations interprets it as the “*recognition that employees have an inner life that nourishes and is nourished by meaningful work that takes place in the context of a community*” (Ashmos & Duchon, 2000, p. 137), reinforced by an organizational culture that promotes employee transcendence through work processes and provides feelings of completeness and joy (Giacalone & Jurkiewicz, 2003).

### **2.3.1. Dimensions of spirituality at work**

The notion of spirituality at work, focused by the present study, is based on Ashmos & Duchon's (2000) definition, with three dimensions - inner life, meaningful work, and community (which make up their measurement instrument of spirituality in the workplace).

#### **2.3.1.1. Inner Life**

Inner life means that, in addition to physical, emotional, and cognitive needs, employees have spiritual needs at work. According to Duchon & Plowman (2005), inner life encompasses the spiritual dimension of a person's self-concept, as well as social identity linked to the organization, and especially the work unit, which may allow for the expression of that self-concept.

#### **2.3.1.2. Meaningful work**

This dimension assumes that employees value their work for reasons beyond their remuneration. Based on the job design literature, Duchon & Plowman (2005) refer to job enrichment as a way to enhance meaningful work, which must also include what employees consider to be important in life and able to provide a sense of joy.

Some studies help explain and justify the importance of this dimension in the workplace spirituality construct. Cartwright & Holmes (2006) mention the rewarding nature of meaningful work to face the changes of working conditions and the reconfiguration of employment that can lead to frustration and disenchantment with work. Mitroff & Denton, (1999) consistently suggest that individuals attribute greater importance to purpose, achievement, autonomy, satisfaction, interpersonal relationships at work, and learning, than to money. Tischler (1999) related the emergence of workplace spirituality with Maslow's theory of needs hierarchy and states that organizations of most developed countries transfer

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survival and security needs to higher order needs, thus explaining a more intense search for greater meaning at work.

### **2.3.1.3. Sense of community**

The feeling of belonging to a community is part of what enhances the spirituality at work, as it allows "high quality connections" (Dutton & Heaphy, 2003). Duchon & Plowman (2005) stress the role of leaders in creating a community at work, where employees feel part of this community, identify with its purpose, and create links with other people at work. Mirvis (1997) emphasized the importance of being connected to others as key to rediscover work by enhancing its spirituality dimension.

### **2.3.2. Organizational Performance and spirituality**

Despite the paucity of empirical studies, some research mentions the relationship between workplace spirituality and organizational effectiveness (Fry et al., 2011; Giacalone & Jurkiewicz, 2003; Sanders et al., 2003). Cacioppe (2000) highlights leadership performance and success as being comfortable with spirituality and promoting the spiritual development of followers. Fry (2003) suggests that workplace spirituality leads not only to personal benefits (joy, satisfaction, and commitment), but also to organizational benefits, namely increased productivity and reduced absenteeism and turnover. Hong's study (2012) shows that inner life and meaningful work are negatively associated with intention to leave. In their study, with hospital teams, Duchon & Plowman (2005) concluded that the three teams with higher levels of spirituality (inner life, meaningful work, and community) presented higher performance, measured as patient satisfaction in terms of quality and sensitivity. Rego & Cunha (2007) revealed that individuals tended to demonstrate greater affective and normative commitment, and less instrumental commitment, when strong workplace spirituality is present at organizational and team levels. Karakas (2010) reviewed about 140

articles on how workplace spirituality supports organizational performance and found that spirituality benefits employees and supports organizational performance, because spirituality enhances employee well-being and quality of life, provides employees with a sense of purpose and meaning at work, and provides employees with a sense of interconnectedness and community, which is consistent with Ashmos & Duchon (2000). Hence, our first Hypothesis:

*H1: Higher levels of spirituality lead to higher levels of organizational performance:*

- a) Higher levels of inner life lead to higher levels of organizational performance:*
- b) Higher levels of meaningful work lead to higher levels of organizational performance;*
- c) Higher levels of sense of community lead to higher levels of organizational performance.*

### **2.3.3. Spirituality and primary healthcare services**

Primary healthcare is essential healthcare placed within the reach of individuals and families in the community at a sustainable cost for the community and the country. Being as close as possible to the places where people live and work, it represents the first contact point of individuals, families, and communities with the national health system (Starfield, 1992; World Health Organization, 1978). Healthcare services are an important setting for investigating workplace spirituality, for several reasons. Dealing with illness and suffering on a daily basis demands a holistic care from professionals that contribute to people's health, involving presence, empathy and emotional relationships, in a holistic perspective (Kashi Komala & Ganesh, 2006). While the advances in medical science and practice have moved the focus to task-oriented care and less time with patients, a large number of health professionals (such as nurses) consider that the difference to other professions is the

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authentic caring behavior and the commitment to quality patient care (Bolton, 2000). Puchalski (2001) highlights the definition of compassionate care “that involves serving the whole person – the physical, emotional, social, and spiritual. Such service is inherently a spiritual activity” (p. 352). Besides, this particular institutional/organizational context is characterized by the need for social legitimacy, through a system of values able to transcend private interests that can be reinforced through workplace spirituality. On the other hand, despite a strong institutional environment, health organizations also suffer from heavy pressure for efficiency and the need to effectively ensure healthcare with limited existing resources (Martins, 2007). In this paradoxical context, health organizations have to develop strategies to articulate technical activities with the intangible requirements of the institutional elements (Meyer & Rowan, 1991).

Another justification for studies of workplace spirituality in the context of primary healthcare concerns the type of work that implies a contribution to people’s health (meaningful work) and a close connection with the community (sense of community). Hausman (2004) highlights the importance of the interaction between the doctors and their patients for several outcomes, such as improved patient compliance, and length and quality of patient life, notwithstanding this type of interaction becoming increasingly infrequent due to efficiency demands. Professionals of primary care services are considered to have a self-concept that includes high standards of morality and service (Siebert & Siebert, 2007), but are also attributed higher levels of occupational stress than other types of professionals (Chang et al., 2005; Visser et al., 2003; Firth-Cozens, 2001), due to intense pressure, patient demands, work overload, lack of autonomy, and lack of time to plan. Distress and the extreme case of burnout, are common outcomes (Poghosyan et al., 2010; Felton, 1998), but workplace spirituality may alleviate the negative consequences of occupational stress (Altaf & Awan, 2011). Puchalski (2001) highlights the definition of compassionate care “that



involves serving the whole person – the physical, emotional, social, and spiritual. Such service is inherently a spiritual activity” (p. 352). Huynh et al. (2008) mention that nurses should not only have a supportive environment but also opportunities to discuss their difficult cases with colleagues, which can promote a more reflective practice and alleviate emotional labor. Both emotional labor and emotional work are present in the healthcare sector and social support, for example, may unleash more positive outcomes (Pisaniello et al., 2012). In that vein, Kazemipour et al. (2012) suggest that workplace spirituality provides nurses with a greater meaning, a sense of purpose and a better alignment with organizational goals, which is reflected in higher citizenship behaviors and affective commitment.

### **2.3.3.1. The Portuguese Primary Healthcare system**

The foundations of the National Health Service (NHS) in Portugal have an important historical meaning, for the community and the country. Until 1945 healthcare services were fully private, and costs financed by the patients, the state having the sole responsibility of assisting the poor citizens. From then on, small changes were added, such as free maternity and childcare assistance (Biscaia et al., 2006). In 1971, still under the dictatorship, the first incipient model of NHS included equal access of the Portuguese population to healthcare, in the prevention of contagious diseases and vaccination, and some additional services to vulnerable groups – women and children (Fialho, 2008). It was only in 1976, with a democratic regime, that Portuguese citizens were legally guaranteed the right to health, in terms of promotion, prevention and vigilance, and so health services were gratuitously provided to all, independently of their wealth and ability to pay (Diário da República, 1982). The NHS, which includes the primary healthcare services, has therefore a central and symbolic meaning, rooted in the values of freedom and community service and inextricably associated with democracy. In 1990, the Health Framework Law (Diário da República, 1990) reaffirmed the right of all citizens to equal access to healthcare, the State being

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responsible for guaranteeing this right. Primary healthcare services were mainly organized in health centers (HCs), which were closer to the communities and included doctors, nurses and administrative staff.

The legislative elections of 2005 were the dawn of a new health policy cycle. One of the reforms was the implementation of family health units (FHUs), coexisting with HCs, proposed by the Primary Healthcare Mission, a strategic advisor to the Minister of Health.

Health Centers are institutions with preventive and public health concerns: vaccination, health monitoring of pregnant women and children, educational health, activities of the health authority, etc., with different professional lines, especially the medical career of general practitioners – family doctors (Branco & Ramos, 2001). In 2006 FHUs emerged to increase: accessibility to healthcare, satisfaction of patients and professionals, quality and continuity of care, and service efficiency. FHUs are self-selected teams with a special compensation package that includes a base salary plus performance-pay, associated with an annual action program approved by the respective regional health authority. These contracts include a heavier workload, and a greater number of patients served.

These smaller teams are expected to deliver a more adequate patient care, and this type of organization is related to sense of community, by promoting high quality connections in the community and inside the team (Duchon & Plowman, 2005). Additionally, international trends highlight the reduction of solo practices and propose a considerable increase of group practices, and empowerment of health professionals, which is expected to increase meaningful work, another dimension of workplace spirituality (Branco & Ramos, 2001).

We analyze these two distinct organizational forms for the delivery of primary care services, with FHUs being based on self-selected teams, with more autonomy and accountability of the health professionals for common objectives and better planning capabilities than HCs.

We therefore expect spirituality to differ between these two types of primary care services.

Hence, our second hypothesis is:

*Hypothesis 2: Higher levels of spirituality are experienced by FHUs than by HCs.*

- a) *Higher levels of inner life are experienced by FHUs than by HCs;*
- b) *Higher levels of meaningful work are experienced by FHUs than by HCs;*
- c) *Higher levels of sense of community are experienced by FHUs than by HCs.*

Since in Hypothesis 1 we predict that spirituality is positively associated with organizational performance, we also expect FHUs to have better performance indicators than HCs, through the mediation effect of workplace spirituality. Hypotheses 3 and 4, therefore, are:

*Hypothesis 3: FHUs present higher levels of organizational performance than do HCs.*

*Hypothesis 4: The relationship between type of primary healthcare organization and organizational performance is mediated by workplace spirituality*

- a) *The relationship between type of primary healthcare organization and organizational performance is mediated by inner life;*
- b) *The relationship between type of primary healthcare organization and organizational performance is mediated by meaningful work;*
- c) *The relationship between type of primary healthcare organization and organizational performance is mediated by sense of community.*

## **2.4. Methodology**

### **2.4.1. Sample**

Data collection took place during May, June, and July, 2008, with nine classical HCs and eleven FHUs that were chosen as a convenience sample. In each HC, a questionnaire was given to seven professionals in each job category (general practitioners - doctors, nurses,

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and administrative staff), yielding 137 valid questionnaires. In the FHUs, all team members were given the same questionnaire, for a total of 129 valid responses. The sample distribution by gender and job is shown in Table 1.

**Table 1** Percent sample distribution by gender, job, and work group.

	HC	FHU	TOTAL
<b>Gender</b>			
Male	16.3	23.5	19.9
Female	83.7	76.5	80.1
<b>Job</b>			
Nurse	35.0	31.3	33.2
General Practitioner	27.7	36.6	32.1
Administrative staff	37.2	32.1	34.7
Total by Unit of Analysis	51	49	100

Average age in the HCs was 45.8, ranging from 22 to 65, whereas in FHUs, average age was 42.3, ranging from 23 to 63. Average age in the total sample was 44.1. Data were collected in two urban, three suburban, and four rural areas.

Although the characteristics of the sample (two identical groups in terms of work content and job categories, but different work design), resemble the conditions of a quasi-field experiment, no causal relationships may be assumed from this design.

### 2.4.2. Measures

#### 2.4.2.1. Organizational Performance

In order to avoid the common-method variance problem, we use two measures of performance: perceived and objective organizational performance<sup>1</sup>. We were able to obtain

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<sup>1</sup> We thank an anonymous reviewer for this suggestion.

objective ratings of some units in our sample from their respective Regional Health Authority, and the two measures are described below.

#### **2.4.2.2. Perceived organizational performance.**

Perceived organizational performance was assessed by five positively worded questions addressing the extent of employees' agreement, on a 1=fully disagree to 5=fully agree scale. The five performance criteria are: *just-in-time* (waiting time to schedule an appointment), *total quality management* (continuous process improvements toward service quality), *team work* (work is done by teams), and *skill development* (skill improvements), all proposed by Wall et al. (2004) and *patient satisfaction*, as proposed by Cabral et al., (2002). For example, question 6 was, "In this unit patient satisfaction is high". Cronbach's alpha for this measure was 0.86.

#### **2.4.2.3. Objective organizational performance.**

HCs and FHUs are evaluated on various objective criteria that include 15 indicators in four categories: accessibility (e.g. percentage of patient appointments with his/her own doctor), assistance performance (e.g. percentage of women aged 50-69 with registered mammography in the last two years; or percentage of two-year old children with up-to-date vaccination plan), patient satisfaction (e.g. percentage of satisfied/very satisfied patients), and efficiency (e.g. average cost of medication per patient). This evaluation assesses the extent to which annual objectives are met, on a 1-30 rating scale, conducted by the Regional Health Authority from which the healthcare unit hierarchically depends. We used the ratings given in 2009, one year after the survey was conducted, which allows us to have some longitudinal effect, for 13 of the 20 units in this analysis.

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### **2.4.2.4. Spirituality**

We used the Duchon & Plowman's (2005) scale to measure the three spirituality dimensions, on a 1=absolutely not to 5=absolutely yes scale: *inner life* with five items; *meaningful work* with seven items, and *sense of community* with nine items. Original items were translated into Portuguese by the first author and then back-translated by an English speaking person, to guarantee that the meaning of the translated items matched the original ones. Examples of these items are "My spiritual values influence the choices I make" (inner life), "The work I do is connected to what I think is important in life" (meaningful work), and "My supervisor encourages my personal growth" (sense of community). Sample adequacy was analysed and considered appropriate (KMO=0.87; Bartlett's sphericity test- $\chi^2 = 2287.2$ ,  $p=0.000$ ). We then computed a principal components confirmatory factor analysis with Varimax rotation and obtained a solution with three factors explaining 52 percent of the total variance; items with a loading below 0.5 were deleted. The final instrument for our study included six items for *sense of community* (Cronbach's alpha=0.87), seven items for *meaningful work* (Cronbach's alpha=0.86), and four items for *inner life* (Cronbach's alpha=0.78). A Cronbach's alpha of 0.84 was obtained for the total spirituality scale.

### **2.4.2.5. Work Group**

Work Group was captured by a dummy variable, to differentiate FHUs from HCs, where FHU=1 and HC=0.

### **2.4.2.6. Control variable**

We controlled for job category, since it is likely that both nurses and doctors experience a higher level of spirituality, namely in terms of meaningful work. We computed three dummy variables: nurse, where nurse=1, other values=0; doctor, where doctor=1 and other

values=0, and administrative, where administrative=1 and other values=-1. We chose effects coding, using -1 instead of 0 in the third variable, to obtain differences for any group from the mean of all groups (Hair et al., 1995).

### **2.4.3. Administration Process**

The survey was administered in the presence of the first author who provided a brief explanation of each item and was available to answer questions from the subjects (Waterson et al., 1999). For this reason, the response rate was very close to 100 percent. A number of questionnaires had missing data and were discarded.

## **2.5. Results**

We started by analysing the data for normality of the variables. Although the Kolmogorov-Smirnov and the Shapiro-Wilk tests were significant, the Q-Q plots and the histograms did not depart from the expected forms, thus allowing for the analysis to proceed. To test Hypothesis 1, we computed two regressions, with the total scale of work spirituality as independent variable, and perceived and objective organizational performance as dependent variables. Since the results were significant ( $R^2=0.46$ ,  $Beta=0.676$ ,  $p=0.000$ , and  $R^2=0.12$ ,  $Beta=0.339$ ,  $p=0.000$ , respectively), we computed a hierarchical multiple regression, for each of the dependent variables. In the first block, we entered the control dummy variables for job category and in the second block the independent variables, inner life, meaningful work and sense of community.

Tolerance values of the independent variables ranged between 0.95 and 0.99, therefore revealing no signs of multicollinearity. In Table 2 we show the mean scores, standard deviation, and inter-correlations among the variables.

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**Table 2** Means, standard deviations, and inter-correlations

	Mean	Standard deviation	Perc.Organiz. performance	Obj.Org. performance	Nurse dummy	Doctor dummy	Administrative dummy	Inne r Life	Meaningful Work
Perc.Organiz. performance	18.16	4.05							
Obj.Organiz. performance	19.65	8.18	0.52**						
Nurse dummy	0.33	0.47	0.05	-0.04					
Doctor dummy	0.32	0.47	0.09	0.05	-0.48**				
Administrat. dummy	-0.31	0.95	-0.14*	-0.03	-0.52**	-0.50**			
Inner Life	3.87	0.78	0.18**	0.02	-0.00	-0.03	0.02		
Meaningful Work	3.95	0.65	0.48**	0.25**	0.13*	0.07	-0.20**	0.45*	
Sense of community	3.56	0.70	0.72**	0.39**	0.04	0.06	-0.10*	0.26*	0.58**

*Notes.* \*  $p < .05$ ; \*\*  $p < .01$

Significant correlations between perceived organizational performance and the three spirituality variables were obtained; in the case of objective organizational performance the correlation with inner life was not significant. The three spirituality variables are significantly correlated among themselves. In terms of the control variable, being a nurse is significantly correlated with meaningful work, whereas being an administrative employee is significantly and negatively correlated with organizational performance, meaningful work, and sense of community. Being a doctor has no significant correlation with either organizational performance or any of the spirituality dimensions.

Results in Table 3 refer to our Hypothesis 1, in which we predict that the three dimensions of spirituality contribute to organizational performance. Sense of community is the only dimension of workplace spirituality that significantly contributes to perceived and objective performance, despite the fact that the three dimensions are significantly correlated. As a result, only Hypothesis 1.c) is supported.



**Table 3** Regression analysis with organizational performance as dependent variable

	<i>Perceived Organizational performance<sup>a</sup></i>			<i>Objective Organizational performance<sup>b</sup></i>		
	Standardized Beta	<i>t</i> (255)	<i>P</i>	Standardized Beta	<i>t</i> (162)	<i>P</i>
Nurse dummy	-0.27	-0.84	0.401	-0.62	-1.36	0.175
Doctor dummy	-0.26	-0.79	0.429	-0.57	-1.18	0.240
Administrative dummy	-0.33	-0.987	0.325	-0.64	-1.23	0.219
Inner Life	-0.03	-0.59	0.552	-0.13	0.87	0.124
Meaningful Work	0.09	1.46	0.147	0.09	4.10	0.388
Sense of community	0.67	12.49	0.000	0.40	-1.55	0.000

*Notes.* <sup>a</sup>R<sup>2</sup> = 0.53, R<sup>2</sup>Change= 0.50, F (6,252) = 89.472, p= .000; <sup>b</sup>R<sup>2</sup> = 0.20, R<sup>2</sup>Change = 0.19, F(6, 155) =6.493, p= .000

Linear regressions using the single items of perceived organizational performance as dependent variables showed that meaningful work significantly contributed to perceived just-in-time and perceived patient satisfaction.

Hypotheses 2 and 3 imply a comparison between FHUs and HCs, in terms of both spirituality levels and organizational performance. To test the second hypothesis, we used a GLM analysis, with the three workplace spirituality dimensions as dependent variables and two factors: work group (HCs and FHUs), and job category (nurse, doctor, and administrative staff). Wilk's Lambda was significant for both factors, although only 14 and 6 per cent of the variance is explained by the differences between work group and job category, respectively.

In Table 4, we report the mean scores and standard deviations for the work spirituality dimensions, by work group and job category. Scores are always higher for each dimension in the FHUs, regardless of job category with the exception of inner life, which is higher for doctors in HCs than in FHUs. However, only meaningful work (F=16.65, p=.000) and sense of community (F=40.67, p=.000) reached statistical significance, whereby Hypotheses 2.b) and 2.c) are supported. Additionally, meaningful work was the only dimension to reveal

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significant differences across job category ( $F=4.89$ ,  $p=.008$ ), and the simple contrasts reveal that both nurses and doctors experience higher levels of meaningful work. There are no significant interaction effects between work group and job category.

**Table 4** Workplace spirituality dimensions - mean scores and standard deviations, by work group and job category

	Work Group	Job Category	Mean	Std. deviation	N
Inner life	HC	Nurse	3.86	.92	48
		Doctor	3.91	.72	38
		Admin. Staff	3.75	.79	51
	FHU	Nurse	3.93	.59	41
		Doctor	3.72	.88	48
		Admin. Staff	4.10	.69	40
Meaningful work	HC	Nurse	3.96	.58	48
		Doctor	3.91	.69	38
		Admin. Staff	3.56	.72	51
	FHU	Nurse	4.22	.45	41
		Doctor	4.10	.60	48
		Admin. Staff	4.05	.72	40
Sense of community	HC	Nurse	3.44	.75	48
		Doctor	3.30	.77	38
		Admin. Staff	3.19	.64	51
	FHU	Nurse	3.78	.48	41
		Doctor	3.86	.65	48
		Admin. Staff	3.81	.58	40

To test Hypothesis 3, we used the same GLM procedure. Table 5 shows that scores were higher in FHUs than in HCs for perceived ( $F=114.75$ ,  $p=.000$ ) and objective organizational performance ( $F=202.03$ ,  $p=.000$ ). Marginally significant differences were found in perceived organizational performance by job category ( $F=2.99$ ,  $p=.050$ ), simple contrasts showing that perceived performance by nurses was significantly higher than that of administrative staff, whereas higher perceived performance by doctors was marginally not significant ( $p=0.061$ ). Hypothesis 3 is thus supported by the data.

**Table 5** Perceived and objective organizational performance: mean scores and standard deviations, by work group and job category

Work Group	Job Category	Mean	Std. deviation	N
<b>Perceived Organizational Performance</b>				
HC	Nurse	16.72	4.09	47
	Doctor	16.32	3.40	37
	Admin. Staff	14.86	4.03	50
FHU	Nurse	20.56	2.41	39
	Doctor	20.60	2.51	45
	Admin. Staff	20.44	2.96	42
<b>Objective Organizational Performance</b>				
HC	Nurse	11.00	4.41	19
	Doctor	10.12	4.41	17
	Admin. Staff	11.30	4.83	17
FHU	Nurse	23.88	5.45	33
	Doctor	24.03	6.12	40
	Admin. Staff	23.54	5.98	37

We analysed the individual items of perceived organizational performance and the results showed that FHUs had significantly higher scores than did HCs in all criteria. Additionally, nurses and doctors presented significantly higher scores in skill development than did administrative staff, and nurses presented significantly higher scores than did the two other job categories in total quality management. Job category did not, however, have any significant impact on objective organizational performance.

The fourth hypothesis proposes that the impact of work group in organizational performance is mediated by the spirituality dimensions. To test this hypothesis, we performed mediation tests and computed the Sobel test of significance (Preacher & Hayes, 2004). The analysis of mediation calls for computing three regressions: the first with organizational performance as dependent variable and work group as independent variable, the second with spirituality (or a spirituality dimension) as dependent variable and work group as independent variable,

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and the third with organizational performance as dependent variable and both work group and spirituality (or a spirituality dimension) as independent variables. The Sobel test indicates whether the indirect effect of the predictor on the dependent variable through the mediating variable is statistically significant.

In Tables 6 and 7, we report the unstandardized coefficients and their standard errors, the standardized beta, t, and significance, as well as the Sobel test of significance, for the mediating effect of spirituality and spirituality dimensions in the relationship between work unit and perceived and objective organizational performance. Results show that the total spirituality construct has a significant mediation effect on the relationship between work group and perceived and objective organizational performance. When each spirituality dimension is analysed, inner life does not emerge as a mediating variable, which was expected given the previous results with this dimension. Meaningful work has a significant mediating effect in the relationship with perceived organizational performance, and sense of community emerges as a significant mediating variable in the two types of organizational performance, with the strongest effect. Hypothesis 4 is therefore only partially supported by the data.

**Table 6** Mediation effect of spirituality and spirituality dimensions in the relationship between work group and perceived organizational performance – tests of mediation

	Unstandardized Beta	Std. Error	Standardized Beta	t	Sig.
Spirituality as mediating variable					
Work group- Perc.Org.Perf.	4.531	.417	.559	10.860	.000
Work group-Spirituality	6.898	1.165	.341	5.923	.000
Work group- PercOrg.Perf controlling for Spirituality	2.997	.349	.370	8.580	.000
Spirituality-Org.Perf.	.219	.017	.548	12.715	.000
Sobel test = 5.380, p< .000					
Inner Life as mediating variable					
Work group- Perc.Org.Perf.	4.531	.417	.559	10.860	.000
Work group-InnerLife	.080	.096	.051	.831	.407
Work group- PercOrg.Perf controlling for Inner Life	4.562	.408	.565	11.190	.000
Inner Life- PercOrg Perf.	.758	.262	.146	2.896	.004
Sobel test = .800, p< .212					
Sense of Community as mediating variable					
Work group- Perc.Org.Perf.	4.531	.417	.559	10.860	.000
Work group-SenseComm	.631	.094	.381	6.735	.000
Work group- PercOrg.Perf controlling for SenseComm	2.695	.333	.333	8.098	.000
SenseComm- PercOrg .Perf.	2.947	.201	.604	14.688	.000
Sobel test = 6.103, p<.000					
Meaningful Work as mediating variable					
Work group- Perc.Org.Perf.	4.531	.417	.559	10.860	.000
Work group-Mean.Work	.302	.078	.230	3.854	.000
Work group- PercOrg.Perf controlling for Mean.Work	3.813	.388	.471	9.836	.000
Mean.Work - PercOrg.Perf.	2.268	.292	.371	7.754	.000
Sobel test = 3.465, p<.000.					

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**Table 7** Mediation effect of spirituality and spirituality dimensions in the relationship between work group and objective organizational performance – tests of mediation

	Unstandardized Beta	Std. Error	Standardized Beta	<i>t</i>	Sig.
<b>Spirituality as mediating variable</b>					
Work group-Obj.Org.Perf.	13.063	.908	.749	14.387	.000
Work group-Spirituality	7.124	1.551	.339	4.593	.000
Work group-Obj.Org.Perf controlling for Spirituality	12.321	.953	.706	12.932	.000
Spirituality-Obj.Org.Perf.	.104	.045	.125	2.292	.023
Sobel test = 2.065, <i>p</i> < .019					
<b>Inner Life as mediating variable</b>					
Work group-Obj.Org.Perf.	13.063	.908	.749	14.387	.000
Work group-InnerLife	.179	.135	.105	.1.332	.185
Work group-Obj.Org.Perf controlling for Inner Life	13.051	.914	.754	14.284	.000
Inner Life- Obj.Org.Perf.	-.561	.534	-.055	-1.051	.295
Sobel test = -.823, <i>p</i> < .205					
<b>Sense of Community as mediating variable</b>					
Work group-Obj.Org.Perf.	13.063	.908	.749	14.387	.000
Work group-SenseComm	.606	.123	.360	4.917	.000
Work group-Obj.Org.Perf controlling for SenseComm	12.175	.957	.698	12.724	.000
SenseComm-Obj.Org.Perf.	1.465	.569	.141	2.573	.011
Sobel test = 2.281, <i>p</i> < .011					
<b>Meaningful Work as mediating variable</b>					
Work group-Obj.Org.Perf.	13.063	.908	.749	14.387	.000
Work group-Mean.Work	.350	.104	.256	3.364	.001
Work group-Obj.Org.Perf controlling for Mean.Work	12.777	.938	.733	13.623	.000
Mean.Work - Obj.Org.Perf.	.816	.684	.064	1.192	.235
Sobel test = 1.124, <i>p</i> < .130.					

In addition to the analyses based on the survey, and as suggested by a reviewer, we conducted a series of interviews with:

- three members of one FHU that was not included in the survey, all of whom had previously worked in different HCs;
- the Vice-President of the Lisbon Area Health Authority; and
- two senior managers in the Ministry of Health. These interviews were conducted by two authors, fully recorded, and transcribed.

The sample of FHU professionals was composed by one doctor, 57 years old, one nurse, 45 years old and one administrative staff, 49 years old. All were female. They asked about the type of work performed in the FHUs and in the HCs, differences in operational aspects and organizational culture, and the extent to which the three spirituality dimensions were present in FHUs and HCs. All three interviewees were very positive with regard to their work in the current model (FHU). We will present the main findings by themes. They highlighted belonging to a real team, with mutual respect and accountability for outcomes:

*“The FHU is a team that joins together people with the same behavioral and human affinities, and ways of working. The whole unit policies were defined by all members of the team. Basically everything is decided by unanimous voting. The team is very cohesive, since the discussion of cases is constant, on a daily basis. We even have a common schedule, with the doctors, so that we may jointly discuss specific cases.”* (nurse)

*“The big difference is that here we have no hierarchy, we are a team. What I do may either benefit or harm my colleague.”* (doctor)

*“There’s more effort and collaboration from all, as a team.”* (administrative staff)

For example, the administrative employee is able to monitor the periodic vaccination plan, in the same way as the nurse or the doctor. Second, they mentioned the fact that “community” now means not only the patients but also the team members:

*“With this type of work, we acquired an emotional maturity that allowed me to grow spiritually as a person and as a professional [...] we spend much less time in conflict management.”* (doctor)

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*“I am more committed, I’m more connected with the patients, the community.”*  
(administrative staff)

*“I have as many patients as I always had. We must know how to analyze each case, we must manage our time, but if needed, I stay one hour with a patient that lost her husband one month ago.”* (doctor)

Another theme was related with communication. A new IT system facilitates information sharing and, in terms of operations, allows interactions between all members of the team in real time:

*“We have a shared folder with all information in this unit.”* (nurse)

*“We have two IT systems that allow us to communicate everything about the patients with both nurses and administrative staff [. . .] for example, patients have my email, they often schedule their appointments through it.”* (doctor)

Implementation challenges were also mentioned. They considered that when they started working in this model, some relational taboos had to be broken, namely the professional recognition of nurses and administrative staff:

*“In the beginning, we had the old-fashioned culture. People used to point other people’s mistakes, as if we were not a team and each one of us was in our little corner and did not see anyone. Slowly, over time, we had to break some taboos. Doctors had to make an effort to recognize nurses; this is not common in many health services; nurses are just like us.”* (doctor)

*“My work is much more recognized now; I even treat doctors by their first name. For example, in childcare appointments, a campaign was initiated to convince doctors that they should weigh and measure babies, a task that was typically assigned to nurses, but now they understand that while doing it, they are gathering information for their clinical evaluation.”* (nurse)

Professional pride is the unifying value of the team: they are proud of their gains in quality of health and patient satisfaction:

*“More is demanded from us but we do it because there is more commitment from everyone.”* (administrative staff)

*“We are proud in what we do and are; we feel that working well is worth it. And what does it mean to work well? It’s seeing patient’s satisfaction and creating health gains. We get positively contaminated.”* (doctor)



An increase in the meaningfulness of work was also mentioned, due to the fact that doctors and nurses have their own individual patients/families to follow over time, thereby increasing the variety of tasks they perform:

*“We follow one individual not only in the context of his life but also of his family. This patient is always treated by the same family nurse. I see a baby one day, the next day I see grandma and the next one I may see the mother or uncle. Family nurses, by design, know the patients in a holistic fashion – family and social context. It’s easier to understand the whole culture that surrounds that person, the way he or she deals with him/herself and with others. The fact that we know them better allows them to know us better and the relationship is easier. I can show my “self” and more easily intervene in the therapeutical relationship. The patients that do not look for us are the ones that most need us. Some families are not even aware they need us and we go after them.”* (nurse)

*“Before I used to feel disappointed with my work, people didn’t speak to each other. Now I feel fulfilled and happy.”* (administrative staff)

*“It’s true that we have a new incentive system, but that’s not the way I take. I’ve never worked as much, but I never felt this purpose.”* (nurse)

In summary, these three interviews provided us with rich personal accounts that are consistent with the results obtained in the survey, in terms of a higher level of the spirituality dimensions and better performance outcomes in FHUs than HCs.

The other three interviews, with representatives from the Ministry of Health, covered the institutional context and, aside from recognizing the success of the FHU experiment, raised some concerns regarding the roll-out of the FHUs as well as the possible inequity associated with the existence of a dual system in primary healthcare services. These issues will be discussed in more detail in the following section.

## **2.6. Discussion**

The goal of this study was to analyse the extent to which workplace spirituality as a construct, developed by Ashmos & Duchon (2000), contributed to organizational performance in primary healthcare services. We included the three main dimensions,

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defined by Duchon & Plowman (2005): inner life, meaningful work, and sense of community.

Our first hypothesis sought to reveal whether workplace spirituality contributed to organizational performance, and results provided partial support, since only sense of community significantly contributed to the dependent variables. However, in the patient satisfaction and just-in-time indicators, both sense of community and meaningful work have a significant positive impact, which is consistent with Duchon & Plowman (2005). The interviews with FHU professionals emphasized the link with organizational commitment, in agreement with the findings of Rego et al. (2007), as well as with Mckee et al. (2011) which highlighted sense of community as contributing significantly to employees' well-being.

Hypotheses 2 and 3 aimed at comparing the two types of primary healthcare services in terms of levels of workplace spirituality and organizational performance. FHUs were created as an experiment to simultaneously better respond to the needs of health professionals and the needs of patients. Doctors, nurses, and administrative staff members create self-selected teams with considerable autonomy and the possibility to decide how to best respond to their patient community. These teams have some working conditions that depart from the rigid public service regulations, namely in terms of compensation. HCs, on the other hand, are larger units within a public service context (Pisco, 2011).

Our results showed that higher levels of workplace spirituality were actually found in FHUs, as well as higher perceived and objective organizational performance indicators. These findings strengthen the arguments regarding our first hypothesis and reinforce the reason for the creation of FHUs, i.e., increasing orientation to the community and teamwork; the resultant self-regulation requires a change in attitude and organizational culture, toward

cooperation, collaboration, mutual assistance, solidarity, trust, reciprocity, and transparency (Nunes, 2007). Reis (2009) analysed work attitudes among FHU professionals and concluded that they experienced pride in their occupation and valued team stability, communication openness, and team work - attitudes that were equally demonstrated, in a very vivid and almost emotional way, in the follow up interviews we conducted. When we asked respondents to describe in one word the HC and the FHU environments, it was quite striking to have the same answer from the three professionals: dissatisfaction/unfulfilment vs. accomplishment. References to increased meaningful work and sense of community were particularly highlighted by the FHU members we interviewed.

In our analyses, we controlled for job category - doctors, nurses, and administrative staff, the greatest impact being felt by nurses in terms of meaningful work. Our results are corroborated by Kazemipour et al. (2012), whose study revealed that nurses who reported having spirituality in their workplace performed more acts of organizational citizenship behaviour and demonstrated more affective commitment, as well as by Lazar (2010), who found a positive relationship between life coherency aspects of spirituality and spiritual values with job satisfaction among hospital nurses. We believe that these results deserve further research, but they suggest that doctors, who in Portugal have a strong professional identity, allied with a high social status, experience higher levels of self-expression. Nurses, on the other hand, harvest great advantages of this work organization that enhances the expression of self. As family nurses, their role as key primary care providers is stressed. Although experiencing higher mean levels of workplace spirituality in FHUs than in HCs, administrative staff does not present significant differences in organizational performance, possibly because their work does not allow them to have as close a contact with patients as nurses and doctors have. Additionally, we concur with Mintzberg's (2004) propositions regarding the effectiveness of work organization in professional bureaucracies, where

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mutual adjustment is the essential condition of work coordination. Mutual adjustment is implicit in the way we define and measure sense of community.

Our last hypothesis tested the mediation effect of workplace spirituality, and the results for both perceived and objective organizational performance support a partial mediation effect of workplace spirituality, mainly through sense of community. This finding is consistent with Mckee et al. (2011), who report that sense of community fully mediates the effects of transformational leadership on mental and spiritual well-being of healthcare workers. It should also be noted that we obtained very similar results with perceived organizational performance and objective organizational performance, in agreement with Wall et al. (2004), notwithstanding the fact that our sample with the objective performance ratings was smaller.

Interviews with senior managers in the Portuguese Ministry of Health revealed several concerns regarding the roll-out of the FHU model. At the moment, while recognizing the advantages of FHUs relative to HCs, for the surrounding community, the patients, and the healthcare professionals, the primary healthcare services are provided with two different models, and equity issues have been raised. For example, patients belonging to an HC wait longer than patients belonging to a FHU, and FHUs very frequently share their facilities with HCs, which gives visibility to these differences. Also, health professionals have better working conditions in FHUs than in HCs. A current debate is how to create a model of primary healthcare service that will have better efficiency and quality and how these services will then articulate with other healthcare providers, namely hospitals and continuing healthcare. This debate is especially important in European countries where the percentage of older citizens is steadily increasing.

## 2.7. Limitations and future research

Interpretation of the results must take the limitations of our study into account. A first limitation stems from the fact that we used a convenience sample (although relatively large) that may not represent the population. It is also possible that scores obtained in the workplace spirituality scale were influenced by the social desirability bias. Although we did not apply a social desirability scale to control for this effect, the scores obtained by work groups and by job category show some significant differences, which suggests that the effect is not very seriously affecting the interpretation of results.

We were also not able to include other predictive variables, such as leadership and identification with the organization and the profession, or consider mutual adjustment (Mintzberg, 2004), which can be studied together with the construct of relational coordination (Gittell, 2012). We included objective performance ratings in our analyses but patient surveys, as ultimate recipients of these services, should be added. Additionally, future studies should integrate the construct of contextual ambidexterity (Gibson & Birkinshaw, 2004), and consider top management team decision-making (Carmelli & Halevi, 2009). We also think that workplace spirituality should be considered as potentially enhancing exploration vs. exploitation (Lavie, 2010), since reliability/alignment/exploitation and innovation/adaptability/exploration are paradoxical outcomes that have recently been the *foci* of governmental and industry requests, and may potentially improve short and long term performance.

## 2.8. Implications and Conclusion

This research extends the literature in workplace spirituality and organizational change, and has implications for theory and practice. The first is the finding that sense of community stands out as the most significant workplace spirituality dimension in primary healthcare

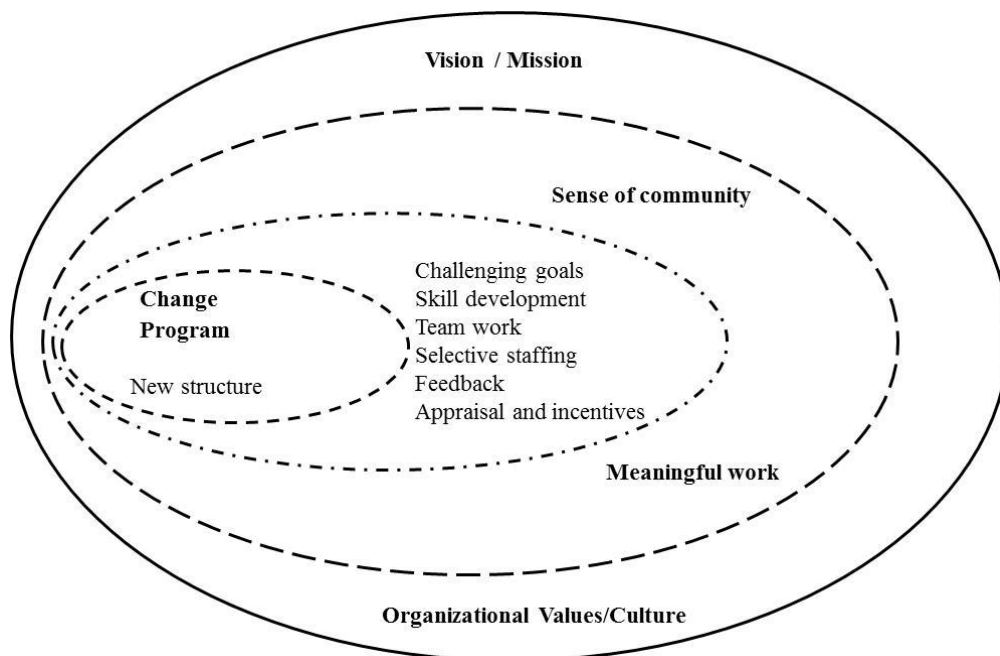
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services and mediates the relationship between type of service delivery and organizational performance. Since sense of community encompasses high quality relationships and identification with a team, studies in organizational change should take it into consideration. Second, Duchon & Plowman's (2005) workplace spirituality scale demonstrated good psychometric properties, even though used in a different country with different institutional characteristics, paving its way to be applied in international studies.

Our study additionally suggests that FHUs have better performance indicators than HCs, which has implications for health policy decision-making, by stressing the role of workplace spirituality in the context of smaller teams. Smaller self-selected teams appear to enhance a supportive workplace and foster social relationships in the organization, as well as to provide greater decision latitude, autonomy and planning, factors considered by Chang et al. (2005) as ones that improve quality of life. The development of an organizational culture in which personal values are shared by the team members seems to strengthen the sense of community and, as a result, individual and organizational performance. We depict the general model in Figure 1. Launching any major change program leading to a new structure creates uncertainty regarding not only the organizational policies and power configurations, but also individual level outcomes, such as career prospects or reporting relationships (Cunha & Cooper, 2002). As a consequence, stress and resistance to change are typical individual responses. To deal with these consequences, leaders need to empower employees, to share information, to align the incentive structure and to build new competencies, so that a climate of trust, constructive dialogue and openness to change is created (Kets de Vries & Balazs, 1998). Our study suggests that using teams as an organizing unit, with a certain degree of autonomy in terms of goal setting, skill development to face the new demands, selective staffing, continuous feedback, appraisal and incentives (at team level) might develop such a climate, through sense of community

and a perception of the meaning of work. Both sense of community and meaningful work stem from the organizational vision/mission and values/culture. This is a process, in which these layers are permeable and exert iterative mutual influence over time, in a dynamic way, rather than a static or bureaucratically defined situation. Workplace spirituality may therefore not only promote a reduction of ambiguity, but also the recreation of an identity, through improved communication, stronger cultural values and teamwork.

**Figure 1** Introducing positive change in established services – the role of workplace spirituality



Workplace spirituality may help employees to rapidly and effectively meet new performance targets as suggested by this study and Geh & Tan (2009). In change processes, workplace spirituality as defined in this paper may internalize the locus of control for individuals and teams, and encourage individual identification with organizational goals and values. Human Resource Management should reinforce workplace spirituality by creating a reduced set of rules that must be followed (reflected in performance management procedures) and at the same time allow enough flexibility to promote shared values and

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team relational coordination (through feedback, competency development, and incentives). The health professionals that we interviewed stressed this aspect. Weekly meetings to discuss current affairs and needed changes were part of their culture, which strengthened mutual trust, respect, and meaningful work.



# 3

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## Study B

Organizational integration defined for secondary healthcare  
organizations

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*If you want to make beautiful music, you must play the black and the white notes together.*

Richard M. Nixon

### 3.1. Abstract

Integrated health systems are considered part of the solution to the challenge of providing care with quality and efficiency (Suter et al., 2009). Health research efforts have been delivering very specific knowledge about very specific diseases. As a consequence this increases the gap between medical specialties, organizations and levels of care (Kuhlmann & Larsen, 2015). Patients, their families, and other informal caregivers experience failures in coordination, namely at points of transition between different levels of care (e.g. from primary to secondary). In this study we search to identify which change initiatives undertaken by hospitals are contributing to healthcare integration by explaining how these initiatives are connecting and bringing together different levels of healthcare. In a large public hospital, we conducted semi-structured interviews with twenty key informants, each one being the director of a different service (medical specialty). The study followed the grounded analysis procedure presented by Gioia et al. (2013) that results in the identification of overarching themes, evident across all informants, suggesting the key concepts that contribute to characterize hospitals change initiatives that lead to healthcare integration. Therefore, we described a detailed list of several initiatives, which were grouped in seven second-order themes. This resulted in three main broader dimensions that constitute the main dimensions of our definition of hospital organizational integration: the mechanisms that enhance the quality of healthcare services through the close relationships with the community (e.g. primary care, social organizations or continuous care organizations), the processes of communication (e.g. internal, family/patient and international) and the level of responsiveness to assistential care by hospital professionals.

**Keywords:** change initiatives; healthcare integration; assistential care; hospital-community relationship; communication

### **3.2. Introduction**

After substantially reducing number of beds and staff in hospitals, more efficiency and quality may be achieved by taking a different health-system perspective and improving the linkages between different levels of care. The challenge for the delivery of healthcare services is nowadays to integrate primary and specialized care as well as shorten the gap between health and social services as “we all need a system that follows a comprehensive and integrated approach to services provided by teams that transcend institutional boundaries, away from conventional performance indicators that reinforce fragmentation of care.” (De la Higuera, 2010, p. 145). The need for healthcare integration is associated with several reasons. On one hand, with the hyper-specialization of medicine and contemporary medical efforts associated with technology advance, it becomes possible to detect an enormous diversity of pathologies, which means that the same person needs different medical specialties at the same time, which may imply different levels of care. On the other hand, the increasing number of chronic diseases, that by opposition to acute (generally provided for a short period of time to treat a new illness or a flare-up of an existing condition) need “on going provision of medical, functional, psychological, social, environmental and spiritual care services that enable people with serious and persistent health and/or mental conditions to optimize their functional independence and well-being, from the time of condition onset until problem resolution or death. Chronic care conditions are multidimensional, interdependent, complex and on going.” (World Health Organization, 2004: 13). Additionally, the number of doctors that we visit during a lifetime helps to illustrate the need for healthcare integration. American patients have seen an average of 18.7 different doctors during their lives, according to a survey conducted by GfK Roper for Practice Fusion, the free, web-based Electronic Health Record (EHR) company. For

patients over 65 years of age, the average increases to 28.4 individual doctors, including primary care, specialists, hospital and urgent care providers.

The World Health Organization estimated that 60% of deaths around the world in 2005 were already due to chronic diseases, with 80% of the total occurring in low-to middle-income countries (World Health Organization, 2005). In fact, chronic diseases are the leading cause of death in every country in the world, except for those with the lowest levels of income. All of these conditions bring new challenges to traditional approaches of organizing and providing health services, healthcare services integration being the big challenge.

Another reason to reshape healthcare services is linked with financial challenges. Combined with relentless rise in the demand for services, this means that it is imperative that the National Health Service, hereinafter referred to as NHS, delivers more for less. Thus, while adapting to these new challenges, the delivery of hospital services should then raise productivity and at the same time increasing quality.

The idea of linking change, integration and healthcare delivery, already started to appear in the organizational management literature. Recently, building on the notion of institutional entrepreneurship introduced by Paul DiMaggio in 1988, Battilana et al. (2009) argue that institutional changes derive from institutional entrepreneurs, since they are agents of divergent change. The authors characterize divergent change as “changes that break the institutional status quo in a field of activity and thereby possibly contribute to transforming existing institutions or creating new ones” (Battilana et al., 2009, p. 67). According to Battilana (2011) the two main categories of collective actors to which individual actors belong in the National Health Services (hereinafter referred to as NHS) are professional groups and organizations. Thus, in the healthcare sector, change divergence can take place at these two levels: role divisions between organizations or role divisions between

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professionals. In 2012, Battilana and Casciaro presented several examples of change initiatives with high, medium, and low divergence from the institutional status quo. The high and medium examples are linked with the notion of decentralizing power in order to achieve better integration since their ultimate goal is to share resources, goals and knowledge. Examples of highly divergent change project include: the transfer stroke rehabilitation services, such as language retraining, from a hospital-based unit to a primary care trust (i.e., from the secondary to the primary care sector) initiative involving primary and secondary care service providers aimed at developing a day hospital for elderly patients; the initiative to develop nurse-led discharge that would transfer clinical tasks and decision-making authority from physicians to nurses; the initiative to have ultrasound examinations performed by nurses rather than by physicians. Examples of less divergent change projects tend to centralize power of the hospital as explained in the following initiatives: transfer a ward specializing in the treatment of elderly patients from a primary care trust to a hospital and the initiative of a general practice to hire an administrative assistant to implement and manage a computerized appointment booking system. The addition of this assistant to the workforce changed neither the division of labour nor the balance of power between healthcare professionals within the general practice. The notion of integration presented in the high and medium examples of change divergence, has been addressed as the main challenge for healthcare delivery, especially for hospitals, that were formerly prepared to respond to isolated episodes of healthcare, namely acute conditions. Due to several causes, such as ageing and the dramatic increase in average life expectancy, a rise in disease-specific risk factors such as obesity and changing life-styles, chronic diseases have become increasingly common and now cause most of the burden of ill health. All of these changes in the demand of healthcare services pave the way for a better-integrated response.

This study is focused on secondary care, specifically hospitals, which are considered complex organizations, since their core activity include high levels of differentiation and integration (Carayon, 2012). Jointly with the hyper-specialization of medicine and contemporary medical efforts associated with technology advance, making it possible to detect an enormous diversity of pathologies, these organizations already developed the differentiation part of the work system. Consequently, the challenge now is to develop the integration dimension of the same complex system, which can be described as “the number of mechanisms that exist to integrate the segmented parts for the purposes of communication, coordination, and control.” (Ibidem). Furthermore, definitions of organizational integration already have been addressed in the literature, that suggest that it can be defined as “the extent to which distinct and interdependent organizational components constitute a unified whole” (Barki & Pinsonneault, 2005, p. 165). Considering the healthcare sector, integrated service delivery is “the organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money.” (World Health Organization, 2008:1). Despite the fact that one knows in which direction change should happen, how to overcome all the raised challenges successfully is unclear since “there is still considerable uncertainty over which policies work best in delivering healthcare that is safe, effective and provides a positive patient experience, as well as which quality improvement strategies can help deliver the best care at the least cost” (OECD, 2015:3).

Considering that change initiatives can result in different outcomes, and that each medical specialty has its own particular characteristics, our aim is to explore, within this diversity, firstly which change initiatives undertaken by hospitals can contribute to healthcare integration and, secondly, what is considered to be hospital organizational integration. By interviewing people involved in the practice of directing and managing hospital services,

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we seek to contribute to the literature on change initiatives undertaken in hospitals that contribute to healthcare integration as well as to provide a concept of hospital organizational integration. In the following sections we describe the method, the findings and the conclusions of the study.

### **3.3. Method**

#### **3.3.1. Participants**

A small pool of five initial informants was interviewed firstly to gather and access relevant information about the appropriateness and relevance of studying the topic, and secondly to choose the most appropriate key informants for the study. For this purpose, we interviewed a Health Economics Professor, the Vice-President of the Executive Council of the Regional Health Authority of Lisbon and Tagus Valley (ARSLVT) and the head of Primary Health Care and Public Health, a government member that was responsible for the Mission Unit for Integrated and Continuing Care, the President of Quality and Patient Safety Committee Coordinator in Health Units, who is also the Director of Quality Management Service in a different hospital and a former Deputy Secretary of State and State Secretary for Health. These exploratory interviews also helped to prepare the script with the key informants. Subsequently, in a large public hospital, with around six thousand workers and twenty-three medical specialties, we conducted semi-structured interviews with the key informants, who are physicians. Twenty (N=20) participants took part in this study (17 males). All informants are Portuguese, with an average age of 61, ranging from 52 to 69. Each participant is responsible for one unit as Service Director, which corresponds to a specific medical specialty: Cardiology, Cardiothoracic Surgery, Surgery, Stomatology, Gynaecology, Imaging, Infectious diseases, Physical medicine and rehabilitation, Medicine I, II and III, Neurosurgery, Neurology, Ophthalmology, Oncology, Orthopaedics,



Otorhinolaryngology, Paediatrics, Psychiatry and Radiology. Regarding tenure as hospital physician, 80% of the informants work for the hospital for over 30 years and the remaining 20% work for the hospital for over 15 years. This characteristic of the key informants guarantees their deep knowledge about each service change initiative, even without considering tenure as Service Director. Nevertheless, 67% are Service Director for 8 to 15 years, 15% for 5 years, and 17% for less than 2 years.

### 3.3.2. Interviews

The five initial interviews occurred in an open format, although we have organized the script according to the interviewees' experience and expertise, covering the following topics: *what have been the change drivers in hospitals? What kind of changes occur in hospitals? Is divergent change present in public hospitals? Are there projects that aim to transfer hospital competencies to other organizations? Are there projects that aim to transfer skills between professionals? Who in the hospital will be the person with more knowledge of change projects?*

Regarding the interviews with the key informants, we started with semi-structured interviews, covering the characteristics of the change initiatives that contribute to integration undertaken by each unit. The initial script had the following structure: *Does this hospital have a process or change project that is original and that somehow diverges from the institutionalized management model of the health sector? (open/exploratory); Is there any kind of link between this service and the primary care or other healthcare provider? If so, how is this collaboration done? Does this collaboration differ from the institutionalized management model used by most hospitals/services? In what sense? (role division among organizations); With regard to the functions established for each professional, is there an initiative where the functions are different from the institutionalized model? With more*

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*autonomy?* (role divisions among professionals). After the first three interviews, and after analysing them, we understood the respondents needed more time to describe all the initiatives. For that reason, we decided to adapt the script to a more open format. In order to have a fully open, non-directive format to capture the qualities that describe change projects, we started by using three open questions in the beginning of the interviews (*How can you characterize change in this unit? What kind of changes can we identify in this unit? and How do they contribute to integration?*).

### **3.3.3. Procedures**

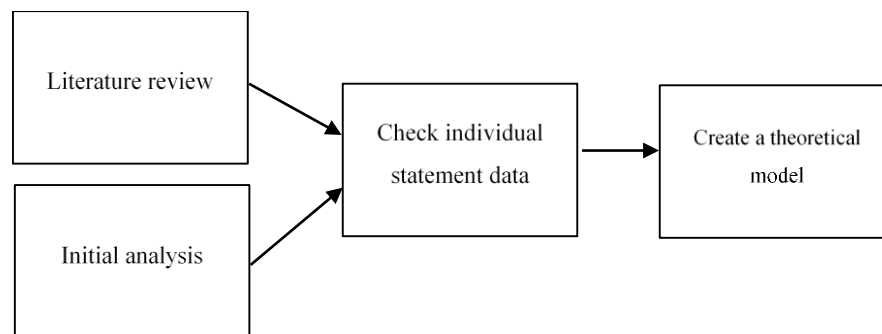
We contacted the Board of the hospital, which agreed to participate in our study. Each previously designated hospital director (titled *administrador hospitalar* in Portuguese) scheduled meetings with physicians. Interviews in the informant's office at the hospital lasted from 50 minutes to 3 hours. All interviews were recorded and fully transcribed. Although two people were involved in the transcription, one of the authors and one professional transcriber, the first author conducted all the interviews and the two authors reviewed all documents and conducted the data analysis.

### **3.3.4. Data analysis**

The method of analysis chosen for this study is a mixture of inductive and deductive qualitative methods. The first part of the analysis is based on the data-driven inductive approach of Strauss & Corbin (1998) with the three steps of analysis, open, axial and selective coding, while the second and third part is based on a deductive approach (Patton, 2002). We chose this methods combination recognizing that there is no neutral knowledge and that theory and practice cannot be kept separate. Thus, the epistemological paradigm for this study is post-positivism (Ryan, 2006). Hence, when analysing data, we simultaneously used theory and grounded data, also as a way to ensure the quality of

qualitative research as suggested by Gioia, Corley & Hamilton (2013). The authors also mention the importance of concept validation before construct creation. Accordingly, on one hand, with the interviews we verify the presence of the dimensions developed by Battilana & Casciaro (2012) that allow us to somehow measure the extent of the change and, on the other hand, explore the other variables that may eventually emerge in the field of application of the study. We also found support for this decision since generating concepts or variables from theory or previous studies is useful for qualitative research, especially at the inception of data analysis (Berg, 1998). In this way, we achieve a balance between the rigor of existing knowledge and the need to create new concepts. With the support of QSR NVIVO 11, we started the analysis as recommended by Gioia, Corley & Hamilton (2013) and followed the three steps of the method. Our model of analysis is presented in Figure 1.

**Figure 1** Analysis model



### 3.3.5. Findings

The open format of the interviews allowed collecting different aspects that helped to characterize initiatives that contribute to integration. Following Glaser & Strauss (1967) change initiatives were grouped in categories according to their similarities at the beginning of the analysis, using names that were used by the interviewees, the so called “in vivo codes”. This resulted in seven second-order themes. A summary of these second-order themes is presented below and will be described in more detail in later sections of the article:

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- Initiatives towards assistance care
- Initiatives to strengthen the relationship between primary healthcare and hospitals
- Initiatives to strengthen the relationship between social organizations and hospitals
- Initiatives to strengthen the relationship between continuous care and hospitals
- Initiatives of internal communication
- Initiatives of communication with patients and family
- Initiatives of international communication

To identify the key informants, they are mentioned as *KIi* with the additional respective code number. For confidentiality reasons the name of the services was excluded from the quotations.

### 3.3.5.1. Second order theme 1: Initiatives towards assistance care.

The first order concepts that led to this theme were present across all the interviews and emerged from the first questions that were related to change initiatives. For that reason, even without focusing on integration, the integrated nature of this theme reveals the underlying assumption that change direction has to increase integration. For example, the importance of assistance care modernization was highlighted.

*“Due to the permanent integration needs, the more important area of intervention is assistance care, and we need this area to be increasingly modern, ... to provide the appropriate technology to the most ill, and also with the best humanization, in the humanization of care.” (KI15)*

On the other hand, many informants exposed the importance of service strategy to be grounded on assistance care.

*“Our services have such a great, overwhelming burden of care, which greatly dominates our efforts” (KI10). “This service has always been essentially a care service. That is, the essential concern of the management of the service is to ensure good patient care, quality work, excellent work.” (KI13)*

The importance of medical attention availability was also mentioned.

*“For example, when we improve computer systems by implementing electronic prescription, we are always very careful about the time the doctor will need to handle administrative issues, since our largest area of intervention is assistance care” (KI15)*

Initiatives towards assistance care embrace changes to improve different parts of healthcare management which can include facilities, medical and administrative procedures, service strategy in terms of work organization, integrated training, monitor patient circuits, monitor medical and nursing decisions, measure physician’s psychological condition, patient-doctor proximity, agreement between services and optimizing physicians workload. The initiatives that were proposed by the interviewees included improvements in the booking appointment system with doctors, facilities, doctor’s expertise, communication channels with patients and family and the reduction of risks.

The importance of assistance care is also related to the increasing number of chronic diseases.

*“The number of chronic diseases per patient changed from an average of 2.1 15 years ago to 4.5 now. That is, each average patient has 4.5 chronic pathologies, within the definition of chronic pathology.” (KI10),*

which comprises a more complex way to provide healthcare as highlighted by KI18.

*“We realize that there is more and more complex disease and chronic illness, we have almost no acute patients”.*

Chronic patients usually need care from several different medical specialties, different healthcare professionals and also different organizations. Thus, the focus on quality of assistance care also implies service integration.

### **3.3.5.2. First aggregate dimension: Responsiveness to Assistential Care**

Responsiveness to assistential care covers initiatives towards assistance care, which are motivated by the willingness to provide care with more quality. They are characterized by

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the clinical, administrative and management efforts of hospital healthcare professionals in order to increase the quality of assistential care to patients and respond to each specific need in each stage of the whole internal circuit that the patient uses in the illness trajectory. Therefore, assistential care efforts comprehend integration, since their ultimate goal is to increase the quality of the context of each specific stage in which patients need to be.

### **3.3.5.3. Second order theme 2: Initiatives to strengthen the relationship between primary healthcare and hospitals**

These initiatives are motivated by the willingness to improve the relationship between the primary healthcare and the hospital. Examples include efforts such as the establishment of communication channels between the primary care and the hospital for emergencies, which can include screenings, follow-up of patients and knowledge sharing. Another initiative that contributes to the primary-healthcare-hospital relationship is the integrated assistance process,

*“Everything is very regulated, there are integrated assistance processes, which in the background is the integrated management of the disease, etc., and therefore was really a fantastic improvement.” (K118)*

These integrated assistance processes stem from the National Strategy for Quality in Health and from the National Health Plan of 2012-2016. They need to be applied in an integrated way at different levels of care and are particularly useful in providing healthcare to people with chronic illness as well as in certain acute illness situations: “Integrated assistential care processes put the citizens, with their needs and expectations, at the center of the system and include all work of the healthcare professionals in the whole network of assistance care over the whole circuit of the patient in a continuous process logic, in any contact point or level of the healthcare system” (National Health Plan, 2012: 8).

### **3.3.5.4. Second order theme 3: Initiatives to strengthen the relationship between social organizations and hospitals**

These initiatives are characterized by the partnerships that the hospital has with social organizations. One example is given by *K11*:

*“After passing the initial phase and being able to go out and be able to do their physical activity, patients are prepared to move to an external environment. We are going to inaugurate a rehabilitation center in May, in which we are going to have precisely this kind of activity, in this phase three, so that it will be a phase where people may already be out of the hospital. This will be controlled and coordinated by us.”*

This joint initiative includes a rectory, two faculties and an association linked to music in hospitals. The music association has joined this project with the purpose of humanizing the space, the relationships between patients and health professionals.

Another example is given by *K118* who mentioned that his service has a mobile support unit sponsored by a foundation,

*“We have a mobile home support unit, which is based here, which is a kind of ambulance, transformed ... as I said, we have many people with chronic disease, some who do non-invasive ventilation, and need to have oxygen. Therefore, to avoid having to come to the hospital every day or to have more hospitalizations every day of the week, this mobile unit goes to people's homes to see the oxygen concentration and also check what the specific needs of each one”.*

Thus, when patients have a certain level of independence, all these initiatives improve the quality of the assistential care outside the hospital.

### **3.3.5.5. Second order theme 4: Initiatives to strengthen the relationship between continuous care and hospitals**

This theme emerged from different sources. On one hand we considered the recent national strategy for the NHS and the corresponding legislation. The demographic changes, with increasing weight of the elderly population, as well as social changes, have led to the need to find answers for the support of people in situations of dependency. Rehabilitation and

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reinsertion, together with active aging policies, are now global challenges. There was therefore a need to define a strategy for the progressive development of a set of appropriate services in the areas of Health and Social Security that would respond to the growing need for care of these population groups, linking with health and already existing social services. The partnership established between the Ministries of Labor, Social Security and Health has enabled the creation and promotion of multisectoral responses, with the objective of promoting the continuity of the provision of Health Care and Social Support to all citizens who are dependent or in a terminal illness. These initiatives are supported by various stakeholders, such as public entities (hospitals, health centers, social security and social security institutions), social and private institutions (Solidarity and lucrative networks), with the government as the main encouraging actor.

The National Continuous Integrated Care Network, hereinafter NCICN, created by Decree-Law no. 101/2006, of June 6, constitutes the organizational and functional model for the development of the stated strategy. It represents a reform process developed by two sectors with intervention responsibilities in the best interests of the citizen: the National Health Service and the Social Security System.

The NCICN stimulates the revision of the role of the hospital and reinforces the role of primary healthcare as a hinge of the NHS, thus supporting its modernization and adaptation to emerging health needs in the country. The NCICN aims at people in a situation of dependence, regardless of age, who need continued healthcare and social support, of a preventive, rehabilitative or palliative nature, provided through inpatient and outpatient units and Hospital and home teams.



The evaluation of the adequate support that each patient should benefit is performed by technicians of the different teams that integrate the network, the discharge teams at the hospital level and local coordination teams, at the health centres level.

On the other hand, one of the initial interviewees was the Coordinator of the Integrated Continuing Care Mission Unit. Her deeper experience and knowledge about the healthcare field also helped us to consider that this theme should be contemplated when reflecting about the contribution to healthcare integration. As she highlighted,

*“It is not just a clinical decision that causes a person to have a discharge supported by continued care. This discharge management team consists of a doctor, a nurse and a social worker. Because when it comes to people's needs, social needs are just as important as clinical needs.”*

Another contribution that paved the way for this theme to emerge highlighted by another initial interviewee (Director of Quality Management Service),

*“We [the hospital] are articulated with the continued care through the collaboration of our cardiologists and endocrinologists. They provide regular appointments to the NCICN”.*

### **3.3.5.6. Second aggregate dimension: Formal hospital-community relationship**

These last three second-order themes, initiatives to strengthen the relationship between primary healthcare and the hospital, initiatives to strengthen the relationship between social organizations and hospital, initiatives to strengthen the relationship between continuous care organizations and the hospital, are directly related to the relationship between the hospital and formal organizations that can complement their mission on health gains. These initiatives together result in the second aggregate dimension: Formal hospital-community relationships. This aggregate dimension is implicitly related to the first aggregate dimension initiatives towards assistance care, since these same initiatives try to respond to challenges related to assistance care but out of the hospital's competences, thus allowing the hospital to focus on acute cases.

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### 3.3.5.7. Second order theme 5: Initiatives of internal communication

These initiatives are characterized by the efforts made by each service that result in a integrated response for patient assistential care inside the hospital,

*“We are integrated in multidisciplinary teams, for example, the service participates in the multidisciplinary consultation of pain, in the multidisciplinary consultation of fracture osteoporosis, in the multidisciplinary paediatric neuromuscular consultation. That is, there has been a connection of the service with other services within the hospital.” (KI7),*

*“We have regular support from nutritionists, psychologists, psychiatrists and also social workers.” (KI20),*

*Our pain consultation is done by the nursing together with the anaesthesia and the psychiatry. (KI4)*

Another contribution for internal communication related speeding up the exams to relevant services,

*“Protocol with Neuroradiology so that inpatients can take the examinations they need almost automatically, without having to ask for each exam individually. It made the thing much more expeditious.” (KI12)*

As the number of chronic diseases is increasing, patients need care from different medical specialties at the same time, which led to the need of having patient managers,

*“Patients (children) with chronic diseases have one patient manager, that could be a doctor from the hospital or from the health centre. This manager is in charge of scheduling all the appointments and medical exams for the same day if possible. This means for instance that parents do not need to miss work many days.” (KI18)*

### 3.3.5.8. Second order theme 6: Initiatives of communication with patients and family

These initiatives involve all the efforts that each unit does to improve the communication channels with patients and their families, which mainly fulfil three goals. The creation of a clinical secretariat for patient support regarding surgeries and the paediatric domiciliary support unit in partnership with the national emergency medical institute, allows both services to generate a pronounced proximity with patients, especially in terms of assistance

care, as it allows to streamline all the necessary issues and care process related to surgery as well as having the necessary equipment for a paediatric emergency. The second purpose of these initiatives is to access information about patient's satisfaction as well as create opportunities to allow them to express their needs. They can result in a very useful tool to monitor issues that might escape the formal structure. As explained by KI18, patients can spot important details:

*“These children are often hospitalized, come to many appointments, do many exams here, they know the department very well. I invite them to bring a little paper with what they think could improve, they are very genuine, they do not criticize for criticizing, they are different from adults. And so they say very funny things, for example a 12 year old teenager said something we had not even noticed ... we have here a number of individual rooms and that the door ... has a glass wall ... The door is glass, partly for the nurse to be attentive. We are always saying that the mother should stay at night, but if the door has no curtain ... and how do you want the mother to have privacy to dress and undress. I immediately asked to put a curtain on the door, I mean ... it seems that it does not matter at all but this is important.”*

Additionally, another contribution that improves communication with family is the example told by KI10 that contributes to the quality of the assistance care that the family will provide at home,

*“We regularly analyse training opportunities for family members who are going to bring patients home, and to meet the needs of those family members during the patient's own inpatient process, to be prepared and supported in that process.”*

### **3.3.5.9. Second order theme 7: Initiatives of international communication**

These initiatives have several purposes. The opportunity to participate in international innovative research studies brings critical advantages.

*“Here we have many clinical studies, but in the last three years, we have been involved in some twenty-three international clinical studies. So we are talking about testing new drugs. It is a very important area here in the service. This is a very important area, that is very appealing to medical teams because they give us therefore contact with products that are not yet in the area of prescription” ... “These international partnerships allow us to develop a plan*

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*not only for participation but also for us to ask for the studies that interest us for our patients.” ... “Also allows us to be in contact with the best specialists in each area, which in turn allows us to obtain their opinion and help on the cases of our patients.” (KI15)*

### **3.3.5.10. Third aggregate dimension: Informal communication networks**

These last three second-order themes, *initiatives of internal communication, initiatives of communication with family, initiatives of international communication*, are characterized by the communication efforts of each service that are respectively related to other internal services of the hospital, to external stakeholders of the service, namely patients, family and informal caregivers and to international organizations. Each one of these groups of initiatives respectively serves the purposes of (1) integration between medical specialties (services) that consequently increase the quality of the assistential care, (2) patient and family (or informal caregivers) integration in the healing process and (3) expand the medical knowledge through the integration and collaboration with international research networks and experts. This group of initiatives result in our concept of *informal communication networks*.

### **3.3.5.11. Hospital organizational integration**

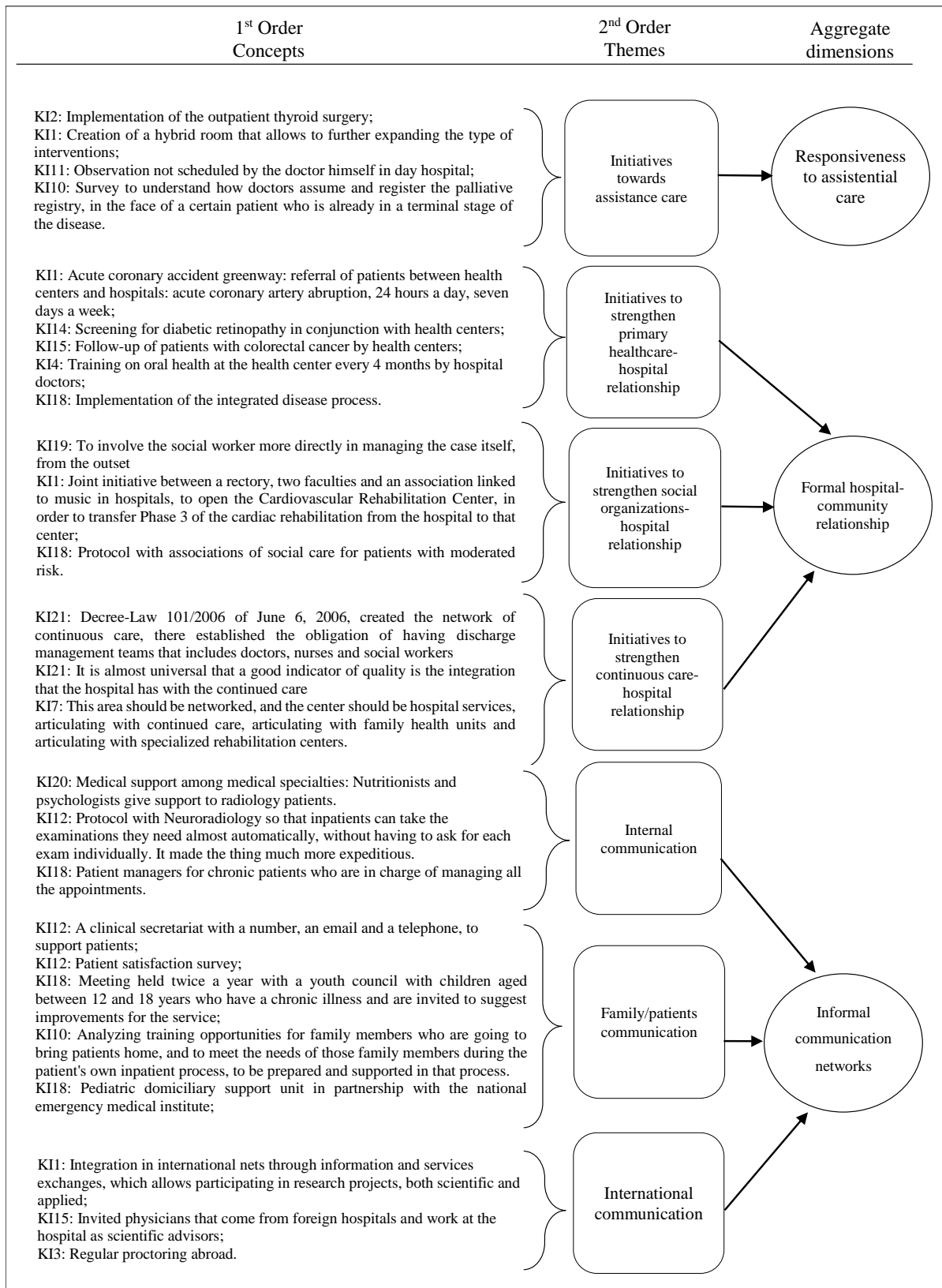
As mentioned before, change initiatives were grouped according to their similarities, which resulted in seven-second order themes that lead to three aggregate dimensions: *responsiveness to assistential care, formal hospital-community relationship and informal communication networks*. Data structure is presented in Figure 2. The first aggregate dimension, *responsiveness to assistential care*, is characterized by the *clinical, administrative and management efforts of hospital healthcare professionals in order to increase the quality of the assistential care provided for the patients in order to respond to each specific need in each stage of the whole internal circuit that the patient uses in his illness trajectory*. The second aggregate dimension, *formal hospital-community*

*relationship*, includes all the *initiatives to strengthen primary-healthcare-hospital relationship, initiatives to strengthen social organizations-hospital relationship, initiatives to strengthen continuous care-hospital relationship* which constitutes *the relationships between the hospital and formal organizations that can complement their mission on health gains*. The third and last dimension, *informal communication networks*, includes the initiatives of internal communication, external communication and international communication. Respectively, their integration purpose refers to (1) the quality of the patient assistential care inside the hospital through closer relationships among medical specialties (services) via collaboration, (2) to the quality of the hospital-patient relationship through the closer relationships between the patients and their family and the hospital and (3) the quality of the collaboration with international research networks and experts.

Each dimension results from the grounded analysis, and expresses the initiatives undertaken by the hospital that contribute to healthcare integration. Hence, our concept *hospital organizational integration* is defined as *the mechanisms that enhance the quality of healthcare services through the close relationships with the community (e.g. primary care, social organizations or continuous care organizations), the processes of communication (e.g. internal, external and international) and the level of responsiveness to assistential care by hospital professionals*.

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**Figure 2** Data Structure



### 3.4. Discussion

Our study contributes to the development of the theory of healthcare integration with a particular focus on the contribution that hospitals generate to this increasingly urgent challenge in the health sector. Specifically, we were interested in exploring which change initiatives undertaken by hospitals are contributing to healthcare integration by explaining how these initiatives are connecting and bringing together different levels of healthcare. In light of this, we described a detailed list of several initiatives, which were grouped in seven second-order themes. These themes resulted in three main broader dimensions that constitute our definition of hospital organizational integration. This concept brings together several aspects that have already been mentioned in other studies related with healthcare integration. One idea already mentioned in the organizational integration literature is linked with the notion of productive interactions suggested by Glasgow et al. (2001). The concept argues that “improving chronic-illness and preventive care and outcomes requires interactions between patients and their professional caregivers that ensure that patients receive effective interventions and that patients’ and their families’ needs of information, behavioural support, and continuity care met.” (Glasgow et al., 2001, p. 584). To achieve productive interactions, patients need the confidence and skills to manage their health and get what they need from the healthcare system (i.e., prepared, activated patients) and providers need the information, resources, and time to ensure and deliver effective interventions (i.e. prepared, proactive team). Thus, on one hand, our examples of *family communication initiatives*, which generate close proximity to patients and for the streamlining of all the necessary care issues and processes, can actively support patient confidence and skills. Additionally, these initiatives also foster productive interactions (leading to activated patients) as they enable to access information about patient’s satisfaction, as well as create opportunities to allow them to express their needs. As a result

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new solutions for challenges that escape the formal structure may be developed (e.g. The curtain in the transparent room). On the other hand, *initiatives towards assistance care*, which also include several healthcare managerial aspects (facilities, medical and administrative procedures, service strategy in terms of work organization, integrated training, monitor patient circuits, monitor medical and nursing decisions, measure physician's psychological condition, patient-doctor proximity, agreement between services and optimizing physicians workload) combined with the remaining aggregate dimensions of this study (formal hospital-community relationship and informal communication networks) can also actively support the other side of productive interactions (i.e. proactive practice team) due to the information sharing, resources and time savings that they afford to the care process.

This study also addresses one critical aspect of integrated care, integration breadth. Kodner & Spreeuwenberg (2002) refers two key dimensions: horizontal and vertical integration. Therefore, on one hand, our themes entitled *initiatives towards assistance care*, combined with *internal communication*, contribute to horizontal integration, wherein similar organizations/units at the same level join together and, on the other hand, the themes entitled *initiatives to strengthen primary healthcare-hospital relationship*, *initiatives to strengthen social organizations-hospital relationship*, *initiatives to strengthen continuous care-hospital relationship*, *communication with family* and *international communication* contribute to vertical integration, which involves the combination of different organizations/units at different levels of the healthcare provided. Another aspect that is considered a challenge for integrated care is physician integration at all levels of the system (Suter et al., 2009). Our results, particularly with the aggregate dimension entitled *formal hospital-community relationship* and second-order theme entitled *internal communication* can also be considered an efficient way to overcome this challenge. Additionally, the



framework developed in this study can also be considered a mechanism to cope with illness trajectories (management of an evolving course) and their respective everyday living problems, like managing regimens, reordering time and living with isolation (Glaser & Strauss, 1975) since the identified change initiatives that constitute our second-order themes, can potentially support all the phases of an illness trajectory.

#### **3.4.1. Implications for theory and practice**

The results obtained in this study suggest relevant contributions for the development of integrated care literature and research. First, by providing a definition of the concept *hospital organizational integration*, this study allows a better understanding of the intellectual territory of integrated care and it reduces the conceptual ambiguity concerning health systems integration. Even though several definitions on integrated care have already emerged in the literature (Øvretveit, 1998; Leutz, 1999; Gröne & Garcia Barbero, 2001; Kodner & Spreeuwenberg, 2002 and, more recently, World Health Organization, 2008) we contributed to this field of research by clarifying the integrative potential of hospitals as an active part in the process. Secondly, this study also allows giving body and systematizing several recommendations of the literature that are related to the integrative role of hospitals. One example given by Naylor et al. (2015) that states that to effectively respond to these challenge, health and social care services must be capable of providing ongoing support over time, anticipating and preventing deterioration and exacerbations of existing conditions, and supporting a person's multiple needs in a well-coordinated way, which is considered in the second-order theme *initiatives to strengthen social organizations-hospital relationship*, since these organizations support the continuance of care. Another example is the dimension of knowledge transfer, proposed by Scott et al. (2009). The authors highlighted that knowledge transfer, as a way of achieving integration in healthcare, entails that the movement of information is either academically driven (push) or user driven (pull).

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Our aggregate dimension of informal communication networks, which include family/patient communication and international communication, respectively contribute user driven knowledge, through the close relationship with patients and their family and for academic driven knowledge, through the contact with international research networks. On the other hand, since this study combines change and integration, results can also contribute to divergent change research proposed by Battilana & Casciaro (2012). Similar to role divisions among organizations and role divisions among professionals, our concept raises two second-order concepts that also contribute to the decentralizing role of the hospital, reinforcing the active role of other stakeholders. Thus, our contribution to this field of research is related with the potential inclusion of an aggregate dimension *informal communication networks*, namely *family/patients communication* and *international communication* in the concept of divergent change. Additionally, the seven second-order themes that emerged from this study can also help researchers develop a measure of hospital organizational integration.

From our results, we also drew on some managerial implications. Our study consists of a framework for policy makers, planners, managers, clinicians and researchers with an interest in promoting, implementing and studying integrated care. A framework in which hospital managers can support their decisions regarding healthcare integration as well as design their own key performance indicators related to integration. It can also be a compass in the creation of internal integration objectives as well as a tool for the hospital financier, which is mainly public funds, in order to choose the more efficient processes to provide funding.

### 3.4.2. Limitations and future studies

One of the main limitations of this study is related with our sample, which only considered the perspective of one hospital. The reason for this limitation is the difficulty for getting permission from the Hospital's Board, which practically took one year and a half, as well as all the long process of booking the interviews, due to the tight agenda of doctors. Another limitation is linked with the interview script, which may have been fundamentally influenced by the first five informants that were specifically involved in government policies, which in turn could skew the type of questions that were raised.

Additionally, more research is needed to build up evidence about hospitals contribution to healthcare integration. On one hand, future studies can contribute also with validated measurement tools to evaluate integrated care hospital initiatives in a more synergetic and analytic way. The conceptual framework presented in its current form is intended for further testing, refinement and development. Thus, we invite further discussion on whether to extend the studies to private hospitals, which have a for-profit goal and therefore may have different mechanisms. Also, extending the study to very specialized hospitals (e.g. oncology hospitals, orthopaedics and mental) as well as including nurses' perspectives and other relevant change actors. Having already been highlighted that integration has a positive impact on performance, future studies should also comprehend the impact of HOI on hospital performance. For example, the work developed by Wilkins, Bruce & Sirey (2009) found that, providing support, training and qualifications to family caregivers (our second-order theme, informal communication networks) can represent effective strategies for tackling chronic conditions (quality outcomes).

### **3.5. Conclusion**

With this study we provide a better understanding of the inter-relationships among the dimensions of integrated care from a secondary care perspective. Specifically, our conceptualization includes multiple facets that play complementary roles of the hospital's contribution for an integrated healthcare, including different dimensions of the hospital's activity and stakeholders. Thus, how these integration levels interact will vary according to the specific context in which they develop. For this reason, we developed a conceptual framework with seven second-order themes that include relationships with the community (e.g. primary care, social organizations and continuous care organizations) the processes of communication (e.g. internal, family/patient and international) and the level of responsiveness to assistential care by hospital professionals. Hence, the development of this framework contributes not only to the existing literature, by clarifying the role of the hospitals in healthcare integration, but also by presenting an agenda that hospital managers can follow in order to achieve a better integrated internal and external system. Moreover, these findings can also lead to guidelines for the NHS and policy makers in what regards integration.

# 4

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## Study C

Hospital organizational integration and relational coordination:  
The mediating role of workplace spirituality and work engagement  
in predicting quality and efficiency outcomes

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8th Iberoamerican Academy Conference, World in Transition: business, multiculturalism and society (Doctoral consortium). **Changing Hospitals: Workplace Spirituality, strength of HRM systems and relational coordination.** Fundação Getúlio Vargas, São Paulo. (December, 2013)

*Not everything that counts can be counted, and not everything that can be counted counts.*

Albert Einstein

#### 4.1. Abstract

Hospital organizational integration (HOI) and relational coordination (RC) are associated with positive organizational outcomes in healthcare organizations, in what concerns both quality and efficiency (Gillies et al., 2006; Mattke et al., 2007; Gittell, 2011; Weinberg, 2007). This study analyses the relationship of HOI and RC with both objective performance outcomes, which measure efficiency, and perceived performance outcomes, which measure service quality. The double mediating role of workplace spirituality and work engagement is also analysed. The study is a survey, in a large public hospital with 395 healthcare professionals. Results revealed the crucial role of HOI in the promotion of efficiency and quality in healthcare services and, on the other hand, highlighted the important role of RC in fostering the quality of the healthcare service provision, but not in terms of achieving operational efficiency. Additionally, WS and WE are performance predictors and mediating variables, in what concerns the quality of hospital performance.

**Keywords:** Hospital organizational integration, relational coordination, workplace spirituality, work engagement; organizational performance

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### 4.2. Introduction

This study explores the impact that hospital integration contribution brings. This contribution, of hospital organizational integration (hereinafter referred to as HOI) was highlighted in a previous qualitative study with twenty key informants, that explored which change initiatives undertaken by hospitals are now contributing to healthcare integration by explaining how these initiatives are connecting and bringing together different levels of healthcare (study B in this dissertation). A detailed list of several initiatives, which were grouped in seven second-order themes, was developed. These themes resulted in three broader dimensions that constitute our definition of HOI. The first dimension, *responsiveness to assistential care*, is characterized by the *clinical, administrative and management efforts of hospital healthcare professionals to increase the quality of the assistential care provided for the patients in order to respond to each specific need in each stage of the whole internal circuit that the patient uses in his illness trajectory*. The second dimension, *formal hospital-community relationship*, includes all the (1) *initiatives to strengthen the relationship between primary healthcare and the hospital*, (2) *initiatives to strengthen the relationship between social organizations and the hospital*, (3) *initiatives to strengthen the relationship between continuous care and the hospital*, and constitutes the *relationships between the hospital and the formal organizations that can complement their mission on health gains*. The third and last dimension, *informal communication networks*, includes the initiatives of (1) *internal communication*, (2) *external communication* and (3) *international communication*. Respectively, the purposes of the referred HOI dimensions ascribe to: (1) the quality of patient assistential care inside the hospital, through closer relationships among medical specialties (services) via collaboration, (2) the quality of the hospital-patient relationship through the closer interactions between the patients, their family and the hospital and (3) the quality of the collaboration with international research



networks and experts. Therefore, HOI can be defined as the mechanism that enhance the quality of healthcare services through the close relationships with the community (e.g. primary care, social organizations or continuous care organizations), the processes of communication (e.g. internal, family and international) and the level of responsiveness to assistential care by hospital professionals.

Additionally, this study analyses the contribution of relational coordination (hereinafter referred to as RC) developed by (Gittell, 2009). The author defines the concept as “coordination that occurs through frequent, high-quality communication, supported by relationships of shared goals, shared knowledge, and mutual respect, enables organizations to better achieve their desired outcomes” (Gittell, 2011:3).

HOI and RC are studied through their relationships with workplace spirituality and work engagement, as well as their impact on organizational performance. We start by reviewing the literature on organizational integration and performance in secondary care, relational coordination, workplace spirituality, work engagement and their interrelationships, as well as raising hypotheses to be tested. We then present the methodology and results, which are finally discussed in the last part of the study.

### **4.3. Hospital organizational integration and performance in secondary care**

Integration is one of the biggest challenges healthcare organizations have faced (De la Higuera, 2010). Although, these organizations, considered a complex system, have been proficient in regard to differentiation and specialization, the integration aspect has been overlooked (Carayon, 2012). The idea that integration brings significant benefits to organizational results has already been explored in a number of sectors. Drawing on the literature of several fields, Barki & Pinsonneault (2005) explore how participating in the

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process chain activities of an organization is generally considered to be extremely beneficial. In what regards the health sector, several studies have also revealed benefits at different levels. An example is the study conducted by Hofmarcher et al. (2007) that highlighted how policy discussions about care coordination are most closely linked to goals of care quality (i.e. impact on health outcomes and responsiveness to patient needs) cost efficiency, and, to a lesser degree, ensuring access to care. Therefore, promoting the integration at different levels of healthcare can bring advantages both to the quality of service delivery (Gillies et al., 2006) and to management efficiency (Krause, 2005; Mattke et al., 2007). Leutz (1999) also highlighted that integration is a means to efficiency, user satisfaction and better outcomes. An example of a study that focused on the role of quality, conducted by Dobrow et al. (2009) uncovered the advantages of integrating cancer services to improve performance. Another example is the study developed by Bachireddy et al. (2014) that demonstrates the advantages of integrated environments for HIV patients. A more recent study developed by Huber et al. (2016) combines desired outcomes, quality and efficiency. The aim was to investigate the effect of integrated care models on disease-related hospitalizations as an indicator of quality and healthcare costs in patients with diabetes, cardiovascular diseases or respiratory illnesses. The study allowed to conclude that diabetes and cardiovascular patients with integrated care models had a significantly lower probability of disease-related hospitalization, compared to those with standard care models; and that healthcare costs were from a statistical point of view significantly lower in all three patient groups with integrated care.

Additionally, when acute hospitals (the ones that provide emergency care) take a more proactive role in integrated care, the impact on quality has been found to be extremely positive. The study of Naylor et al. (2015) highlighted four examples that result in several benefits: (1) The High Risk Patient Programme delivered by Northumbria Healthcare NHS

Foundation Trust and partners has been associated with a significant drop in avoidable admissions and emergency readmissions; (2) in Sheffield, an upwards trend in preventable bed usage appears to have been reversed. Since the Right First Time programme was initiated there has been a drop in bed usage among people with ambulatory care-sensitive conditions; (3) the use of Discharge to Assess in South Warwickshire was associated with a 33 per cent reduction in length of stay, a 15 per cent drop in new admissions to nursing homes post-discharge, and a 15 per cent drop in mortality and (4) the provision of telehealth to care homes by Airedale NHS Foundation Trust was associated with a 37 per cent drop in hospital admissions and a 45 per cent reduction in accident and emergency attendances from affected care homes.

In hospitals, performance may be measured by means of two critical dimensions: (1) efficiency, which is considered a distal outcome, and (2) quality, a proximal outcome. In what regards the first dimension, the current process of hospital contracting is integrated into a planning process with a three-year strategic plan. This plan combines the Business Plan, the Performance Plan, the Adjustment Plan and the Financial Statements, and encompasses the definition of objectives, the main lines of action, the investment plans and the economic-financial projections for the period. It also covers the efficiency and productivity gains, thus ensuring the strategic alignment of management levels and improvement of control and reporting mechanisms in the NHS hospital institution (ACSS, 2016). The amount of financing will be allocated to each hospital according to what was negotiated between the hospital and its respective regional health authority. This negotiation includes several indicators that result in a Global Performance Index, assigned to each hospital. For this study, we included two performance indicators that are considered in the Global Performance Index and were provided by the hospital. These indicators are evaluated by The Regional Health Authority and may therefore be considered as *objective*

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*performance*. The second dimension, a proximal quality outcome, includes factors such as total quality management (continuous process improvements toward service quality), team work (work is done by teams), skill development (skill improvements) and empowerment (freedom to take initiatives) all proposed by Wall et al. (2004), and patient satisfaction, as proposed by Cabral et al. (2002). This second dimension of performance will be assessed taking into account the perception of hospital professionals, and, for that reason, we designated it as *perceived performance*.

Based on the literature review and on the relevance of identifying the impact of integration on hospital performance, our first research question is:

*Research question 1:* Is there a positive relationship between integration and performance, both perceived and objective?

### **4.4. Relational coordination and performance**

Management literature reveals that one way to achieve efficiency in health organizations is also through relational coordination (Gittell et al. 2000; Gittell, 2002; 2009). There is a significant body of research on the implications of coordination (Tushman & Nadler, 1978; Galbraith, 1977; Fletcher, 1999, 1998; Medlin et al., 2005; Quinn & Dutton, 2005; Gittell et al., 2013). Relational coordination (hereinafter referred to as RC) has been developed by Gittell (2011) and entails two main dimensions: communication and relationships. On one hand, the author highlights that in a highly interdependent, uncertain and time constrained context, as in a flight departure process, coordination occurs essentially through communication. On the other hand, “relationships serve to overcome the alienation created by the division of labor by creating more holistic, social identities in place of the more partial and fragmented identities that lead people to reject their connections with others.” (Gittell, 2006:86). Essentially, the theory comprehends the “[...] management of interdependence

between tasks and also the management of interdependence between the people who perform those tasks” (Gittell, 2011:400). Accordingly, the RC theory states that “coordination that occurs through frequent, high-quality communication, supported by relationships of shared goals, shared knowledge, and mutual respect, enables organizations to better achieve their desired outcomes” (Gittell, 2011:3).

RC is also associated with organizational outcomes, in what concerns both quality and efficiency. Jody Gittell suggests that “the theory of relational coordination specifically proposes that both quality and efficiency outcomes can be improved simultaneously, going beyond the trade-offs between quality and efficiency that are typically found, by enabling participants to achieve better results for customers while engaging in a less wasteful and more productive utilization of resources.” (Gittell, 2011:402). According to Weinberg (2007) the lack of coordination is positively associated with postoperative pain and functioning, and length of stay. Consistent with this result, Havens et al. (2010) highlighted that RC is positively associated with the quality of patient care.

Hospital organizations offer a particularly relevant field of application for this topic (Gittell, 2002; 2008; Vashdi et al., 2013). Jody Gittell suggests coordination as a way for hospitals to manage all the demands that they have to deal with: “pressure from patients to improve the quality of care and clinical outcomes, as well as pressure from managed care to do so, more efficiently” (Gittell et al., 2000:808). Gittell et al. (2008) also found that RC among nursing home employees is positively associated with resident quality outcomes. Similarly, Havens et al. (2010) found that enhancing RC between nurses and other providers is central to improve the quality of patient care, and Cramm & Nieboer (2012) highlighted the important role of RC among core disease-management professionals in different disciplines, which is expected to improve chronic illness care delivery.

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Considering the findings of previous studies, we raise our second research question:

*Research question 2:* Is there a positive relationship between relational coordination and performance, both perceived and objective?

### **4.5. Workplace spirituality, work engagement and performance**

Workplace spirituality and employee engagement research has been gaining attractiveness due to a convergence of many cultural undercurrents, namely a quest for personal values and ideals, the rejection of greed (Garcia-Zamor 2003; Marques, 2010) and a search for meaning and purpose by the employee (Fry, 2003).

One of the most known definitions of workplace spirituality (hereinafter referred to as WS) was developed by Ashmos & Duchon (2000) and encompasses three main dimensions. Firstly, *inner life*, which is linked with self-awareness, with feelings people have about who they are, as well as with the recognition that they also have spiritual needs, which should be expressed at work (Vaill, 1998). Secondly, *meaningful work*, which can be viewed as a living asset that energizes workers by intertwining inner motivations, truths and desires in the work done and allows them to get a deeper understanding of the meaning of their life (Ashmos & Duchon, 2000; Hawley, 1993). Finally, work organization should provide a *sense of community* and contribution to others, as well as the development of a strong employee connection with his or her colleagues (Maynard, 1992; Miller, 1992). Furthermore, Ashmos & Duchon synthesize the concept of WS as the “recognition that employees have an inner life that nourishes and is nourished by meaningful work that takes place in the context of a community” (Ashmos & Duchon, 2000:137).

WS has been found to have a positive impact on organizational performance in different contexts. Several studies have shown that where spirituality in the workplace is respected, employees tend to be satisfied, reliable, loyal, and more productive, which results in lower

rates of absenteeism, in contrast with workplaces where spirituality is neither encouraged, nor respected (Chawla & Guda 2010; Komala & Ganesh 2007; Pawar, 2009). Thus, it is possible to say that spirituality provides employees with a sense of community and connectedness, thus increasing their sense of attachment, loyalty and belonging to the organization. Gupta et al. (2014) presented a cross-sectional survey with data from 100 payroll employees in private insurance companies that showed that the dimensions of spirituality together account for a 64.5 per cent of the employees job satisfaction level. By his turn, Suárez (2015) conceptual paper highlighted how WS produces a unified harmony within the workplace and that spirituality in the workplace brings fulfillment and value to employees. Particularly in what regards objective performance outcomes, Petchsawang and Duchon (2012) also showed a positive relationship between WS and work performance. On a primary healthcare setting, Albuquerque et al. (2014), based on two primary healthcare teams showed that WS is positively and significantly associated with perceived and objective performance. Cartwright & Holmes (2006) already highlighted the adequacy of WS concept to healthcare by explaining that the intrinsic nature of doctors and healthcare professionals provide a greater opportunity to make a difference in the world than others. This nature is linked to sense of community, one of the WS dimensions. Similarly, Maslow (1971) wrote that individuals who do not recognize their workplace as a meaningful and purposeful place will not work up to their professional capacity.

Another aspect that has long been recognized as a performance predictor is work engagement. Schaufeli et al. (2006) define the concept as a “positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption” (p. 701). In essence, work engagement (hereinafter referred to as WE) captures how workers experience their work in what regards the levels of energy and mental resilience while working. Combined, those stimulating and energetic levels create vigor, the first component of WE. Dedication,

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the second component of WE, is related with meaning and involvement with enthusiasm and pride in one's work. Finally, absorption is characterized by a happy full concentration in one's work and also considered as a "pervasive and persistent state of mind" (Schaufeli & Bakker, 2004:295).

A significant body of research has been revealing the positive impact of WE on organizational outcomes (Kahn, 1990; Rich et al., 2010; Schaufeli et al., 2002). Having studied forty-two employees working in three branches of a fast-food company, Xanthopoulou et al. (2009) showed a positive impact of WE on financial returns. Based on Macey & Schneider (2008) framework, Christian et al. (2011) also found that WE had a positive impact on task performance, that was defined as "the effectiveness with which job incumbents perform activities that contribute to the organization's technical core" (Borman & Motowidlo, 1997, p.99). This definition has the same meaning as our variable of objective performance already mentioned before.

The health sector is no exception in what concerns the positive outcome of WE. As highlighted by Collins (2015) engaged staff deliver better healthcare. Another example, that highlights WE impact on nurses health is the study of Peterson et al. (2008) that found that engaged healthcare workers reported less back and neck pain problems, and lower anxiety and depression. Additionally, West & Dawson (2012) showed that healthcare professionals with higher levels of engagement are associated with lower levels of patient mortality, better use of resources and stronger financial performance. Laschinger & Leiter (2006) study showed that when nurses perceive that work environment supports professional practice, they are more likely to be engaged in their work, thereby ensuring safe and high quality patient care. While studying a sample of more than 2000 Dutch doctors, Prins et al. (2010) also found that those who were more engaged were significantly less likely to make mistakes.



#### **4.5.1. Workplace spirituality as an antecedent of work engagement**

Since WS and WE concepts are related to the individual's emotions and spirit in the work environment (Saks, 2011) and how employees' higher order needs can be met (Quatro, 2004) a clear connection between WS and WE has been noted. Bickerton et al. (2014) explored the connections between spiritual resources, job resources, and work engagement, at three different times during an 18-month period, among religious workers. Taking into account that spiritual resources emerged as the only significant predictor of WE, the need for on-going spiritual renewal is a strategic priority for the maintenance of motivation. By their turn, Kolodinsky et al. (2008) found that organizational spirituality was positively related to job involvement and organizational identification, variables that have some similarity to WE, specifically in what regards dedication and absorption components. Another contribution is the significant body of research that showed the positive impact of meaning on WE.

Saks (2011) highlighted the importance of WS for meaningfulness at work and consequently for engagement maintenance and generalization. Similarly, May et al. (2004) that studied Kahn's (1990) three psychological conditions, found that meaningfulness, safety, and availability were significantly related to engagement. Also, relevant studies highlighted that meaning in the workplace brings greater organizational commitment and employee engagement (Holbeche & Springett, 2004; Milliman et al., 2003). More recently, Singh and Chopra (2016) showed a significant positive correlation between one dimension of WS, meaning at work, and WE. Moreover, Usman & Danish (2010) also reinforce the positive impact of WS on WE. The authors showed that increased spirituality in the organizational culture is associated with increased sense of fulfilment in the employees, which is linked to dedication and absorption components of WE. Kolodinsky et al. (2008) also found that organizational spirituality was negatively related to frustration, which can be considered an

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opposite dimension of WE. As frustration hinders fulfilment via task performance and personal goals (Storms & Spector, 1987) the experience of the above referred three engagement components became compromised.

### **4.5.2. Hospital organizational integration and workplace spirituality**

The close relationship between the concepts of HOI and WS is mainly explained by the collaborative characteristics they both encompass. Such characteristics, as collaboration and cooperation, have already proven to have a positive effect on WS (Kinjerski & Skrypnek, 2006). Through a strong communication component, integration comprises a high level of collaboration among different professionals, services and organizations, which in turn may be associated with a greater community awareness (a notion that is directly related to sense of community) and one of the dimensions of WS. As previously described, this dimension is characterized by a sense of contribution to others, as well as a development of a strong connection between an employee and his or her colleagues (Maynard, 1992; Miller, 1992). Additionally, in a study conducted in the area of primary healthcare (Albuquerque et al., 2014) interviews conducted with health professionals that revealed higher levels of WS highlighted that the great collaboration and cooperation with the patients and their families is one of the most relevant factors when it comes to the effectiveness of their work, and leads to pronounced health gains. In this way, health professionals also experience a more meaningful sense of work, one of the three dimensions of WS. These factors, in turn, are also present in the concept of HOI investigated in this study under the category "family/patients communication", which aims precisely to improve the communication channels with patients and their families.

#### 4.5.3. Hospital organizational integration as an antecedent of work engagement

As overstated as it may seem to suggest that there are as many ways to achieve employee engagement as the number of existing organizations, it would, nevertheless, be parsimonious to assume that each organization has a unique strategy and method of achieving employee engagement, and that each one presents an engagement model that is responding to different antecedents and results. As highlighted by Schaufeli & Bakker (2004) job resources are considered an antecedent of WE. According to the authors, job resources can “refer to those physical, psychological, social, or organizational aspects of the job that [...] are functional in achieving work goals” (p. 296). Additionally, as mentioned by Hobfoll (2002) resources “have also been divided between those that are distal and proximal to the self” (p. 307). Therefore, as HOI is an organizational and social-oriented dimension, due to the social and communicational nature of all the initiatives that contribute to an integrated system, in this study, we consider HOI as a distal job resource that might predict WE. Therefore, similarly to Rich et al. (2010) that extend Kahn’s (1990) theory by “considering the degree to which engagement serves as an important mechanism through which the antecedents of engagement impact job performance” (p. 628) in this study, we also propose that the relationship between HOI (which we consider as a distal job resource, antecedent of WE) and performance will be mediated by WE.

Another contributing factor that supports that HOI can be considered as an antecedent of WE, and which has already presented its positive effect in Rich et al (2010) is the notion of value congruence (Kahn, 1992). As these authors defend, value congruence occurs "when employees find that their roles call for behaviors that are congruent with how they like to see themselves (their preferred self-images) they are more likely to find their roles inviting, valuable, and worthwhile and more willing to fully engage themselves” (Rich et al., 2010:621). Taking into account the feedback from the work of Albuquerque et al. (2014)

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regarding the emphasis that health professionals place on collaboration and cooperation, as well as the extensive literature on the importance and relevance of integration in the future of health services, integration can be considered as an antecedent of WE. Another factor that can be considered an antecedent of WE is management quality (Mauno et al., 2007). Specifically, this dimension describes how the manager's clear visions are perceived to influence organizational goals and procedures. Thus, we suggest that the responses obtained through our measure of hospital organizational integration can be considered a way in which employees perceive management goals. Another contributing factor that leads us to consider integration as a possible/potential antecedent of WE are the studies conducted by Davies and Crane (2010) and Lindorff & Peck (2010) which studied Corporate Social Responsibility (CSR) initiatives as an empirical driven antecedent. These CSR initiatives can be linked to one of the metafeatures of the HOI concept: Initiatives to strengthen the relationship between social organizations and the hospital.

Considering the results of previous studies and the theoretical association between the concepts involved, which support the relation between HOI and performance and its connections with WS and WE, we raise our third research question:

*Research question 3:* Is the relationship between HOI and perceived and objective performance, mediated by WS and WE?

### **4.6. Relational coordination, workplace spirituality and work engagement**

By understanding what the team dimension of RC concept entails, it is possible to suggest that environments with an exceptional RC will consequently lead to first-rate environments of WS. This assumption is substantiated by the quality of transcendent purposes of self-interest that both concepts encourage, which has already been considered a precursor of WS

(Pawar, 2009). In a primary healthcare setting, Albuquerque et al. (2014) found that teams who presented the highest scores on WS were also described as having two IT systems that allow nurses, doctors and administrative staff to communicate and share all the patients information. This particularity is linked with shared knowledge, one dimension of RC.

Freeney & Fellenz, 2013 revealed the positive impact of relational coordination on work engagement. At the same time, it has been shown that the characteristics of a job, as described by Hackman & Oldham (1976), namely task significance (how much a job impacts others' lives) is considered a precursor of work engagement (Christian et al., 2011). Additionally, the dynamics that contribute to create climates that positively impact on RC systems may allow for a more acute perception of how much a task impacts others (both professionals and patients) in a given work environment, taking into account the tight structure/work flow that this is supposed to generate. Therefore, it is possible to acknowledge that RC can be a precursor of WE. Another example that contributes to build evidence for this idea is the study conducted by West & Dawson (2012) that considered appraisal and team working as two antecedents of engagement, previously suggested by West et al. (2002, 2006). The study counted 156,951 NHS staff responses and, in all cases, those employees working in well-structured teams were the most engaged.

Based on the literature review we raise our fourth research question:

*Research question 4:* Is the relationship between RC and perceived and objective performance, mediated by WS and WE?

#### **4.7. Models to be tested**

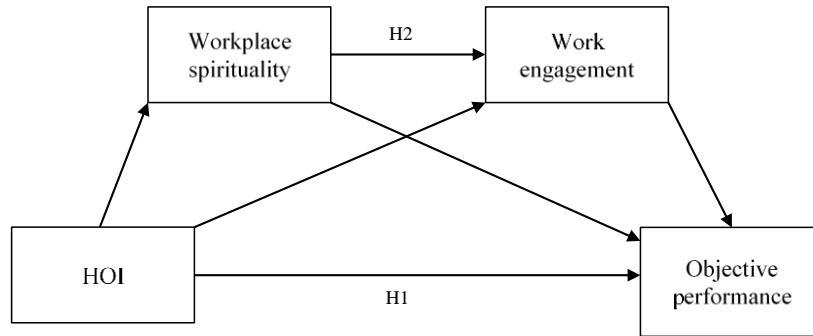
As suggested by Preacher & Hayes (2008) when the hypothesis of mediation by multiple potential mediators is entertained, multiple mediation is the appropriate analytic strategy. Accordingly, for this study, based on the literature review, we hypothesized/identified four

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double mediation models to be tested as described below:

### 4.7.1. Model 1:

**Figure 1** Hypothesized double mediation – model one



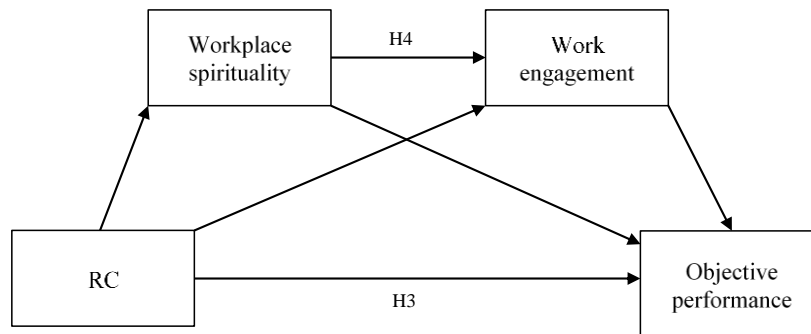
The hypotheses to be tested for this model derive from our research question 1 and 3 and are expressed as follows:

*Hypothesis 1* – HOI is positively associated with objective performance;

*Hypothesis 2* – Workplace spirituality and work engagement mediate the relationship between hospital organizational integration and objective performance.

### 4.7.2. Model 2:

**Figure 2** Hypothesized double mediation – model two



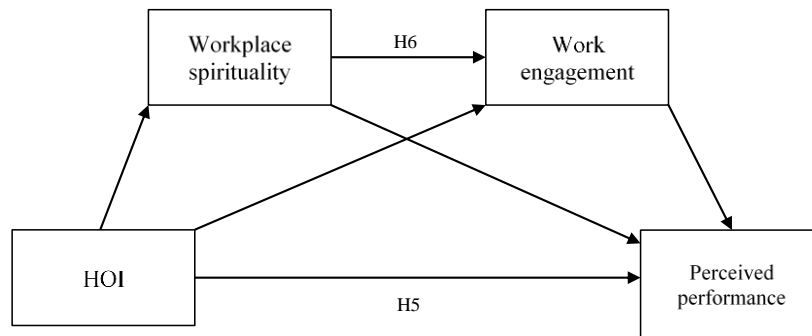
The hypotheses to be tested for this model derive from our research questions 2 and 4 and are expressed as follows:

*Hypothesis 3* – Relational coordination is positively associated with objective performance;

*Hypothesis 4* – Workplace spirituality and work engagement mediate the relationship between relational coordination and objective performance.

**4.7.3. Model 3**

**Figure 3** Hypothesized double mediation model three



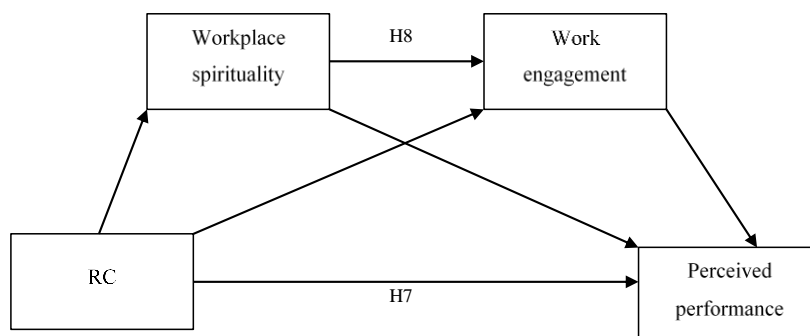
The hypotheses to be tested for this model derive from our research question 1 and 3 and are expressed as follows:

*Hypothesis 5* – Hospital organizational integration is positively associated with perceived performance;

*Hypothesis 6* – Workplace spirituality and work engagement mediate the relationship between hospital organizational integration and perceived performance.

**4.7.4. Model 4**

**Figure 4** Hypothesized double mediation model four



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The hypotheses to be tested for this model derive from our research questions 2 and 4 and are expressed as follows:

*Hypothesis 7* – Relational coordination is positively associated with perceived performance;

*Hypothesis 8* – Workplace spirituality and work engagement mediate the relationship between relational coordination and perceived performance.

### **4.8. Method**

#### **4.8.1. Sample and procedures**

We started by contacting the board of a large public hospital, which agreed to participate in the study. In a long meeting, we explained the purpose of the study, which was very well received. Nevertheless, we had two more critical permissions to obtain before data collection started: hospitals managers and all service directors. Due to the fact that we had to contact each service director individually, this process took a long time, approximately one year and a half. After positively achieved all these administrative protocols, we proceeded with the study. Data collection took place during April, May and June of 2016, on twenty services. In each service, a questionnaire was given to professionals in each job category (doctors, nurses, administrative staff, operational assistant, health diagnostics technologist and senior health technician) yielding 395 valid questionnaires. The sample distribution by gender, job and tenure is shown in Table 1.

Seventy-four per cent of participants were female and the average age was 40.31 years (ranged from 23 to 68). Overall, 3.8 per cent of the surveyed professionals did not complete high school, 11.4 per cent of the participants had completed high school and 83.3 per cent had a university degree, undergraduate or higher. Regarding organizational tenure, 75.1 per cent work for the hospital for over 5 years.



**Table 1** Sample distribution by gender, job and tenure

		Frequency	Percent
<b>Gender</b>	Female	291	73.7
	Male	99	25.1
	Missing	5	1.3
<b>Job</b>	Nurse	140	35.4
	Doctor	125	31.6
	Operational Assistant	30	7.6
	Senior Health Technician	12	3.0
	Diagnostic and Therapeutic Technician	57	14.4
	Technical Assistant	28	7.1
	Missing	3	.8
<b>Tenure</b>	< 6 months	8	2.0
	6 months - 1 year	22	5.6
	1 year - 5 years	62	15.7
	5 years - 10 years	102	25.8
	10 years - 20 years	87	22.0
	> 20 years	108	27.3
	Missing	6	1.5

#### 4.8.2. Measures

The questionnaires are validated and published ones, except the one used for HOI. They were translated into Portuguese and then back translated by an English speaking person, to guarantee that the meaning of the translated items matched the original ones. For all measures, with the exception of control variables and objective performance, respondents had Likert-type scales: for workplace spirituality, perceived performance and hospital organizational integration, a 7-point Likert-type scale was used (1= strongly disagree, 7= strongly agree); for work engagement a 7-point Likert-type scale was used (1= never, 7= everyday) and for relational coordination, a 5-point Likert-type scale was used (1= never, 5= very frequently).

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### 4.8.2.1. Hospital organizational integration.

We measured hospital organizational integration with seven items, based on our results from study B. Scale metafeatures included responsiveness to assistential care, formal hospital-community relationship and informal communication networks. Items are presented in Table 2. A confirmatory factor analysis was conducted, that confirmed a one-dimensional structure ( $\chi^2/df= 2.481$ ; CFI= .995; TLI= .977; RMSEA= .061) with seven items ( $\alpha= .88$ ).

**Table 2** Hospital organizational integration scale structure

Metafeature	Feature	Item
<i>Responsiveness to assistential care</i>	Assistential care	This service is characterized by the attention paid to the assistential care.
	Initiatives to strengthen primary healthcare-hospital relationship	This service strives to improve cooperation with the Primary Health Care services.
<i>Formal hospital-community relationship</i>	Initiatives to strengthen social organizations-hospital relationship	This service strives to improve cooperation with social organizations.
	Initiatives to strengthen continuous care-hospital relationship	This service strives to improve cooperation with continuous care services.
<i>Informal communication networks</i>	Internal communication	This service promotes contact with other internal hospital services.
	Family/patients communication	This service promotes contact with the patients and their families.
	International communication	This service promotes contact with international institutions.

### 4.8.2.2. Workplace spirituality.

We used Duchon & Plowman scale (2005) with 15 items to measure WS. Sample items include: “My spiritual values influence the choices I make” (inner life) “The work I do is connected to what I think is important in life” (meaningful work) and “My supervisor encourages my personal growth” (sense of community). To study the construct validity, we conducted a confirmatory factor analysis that confirmed three factors (inner life, meaningful work and sense of community) as the original scale ( $\chi^2/df= 4.510$ ; CFI= .883; TLI= .853;

PCFI= .706; RMSEA= .094). For this study, the sum of all items was used and the Cronbach's alpha was .87.

#### **4.8.2.3. Work engagement.**

We measured work engagement by using Shaufeli et al. (2006) scale with 9 items. Sample items include: "At my work, I feel bursting with energy" (vigor) "I am enthusiastic about my job" and "I feel happy when I am working intensely" (absorption). Confirmatory factor analysis confirmed three factors (vigor, dedication and absorption) as the original scale ( $\chi^2/df= 3.753$ ; CFI= .977; TLI=.962; PCFI= .597; RMSEA= .084). For this study, the sum of all items was used and the Cronbach's alpha was .92.

#### **4.8.2.4. Relational coordination.**

We measured RC using the seven-item scale developed by Gittell (2009). Respondents from each of the functions answered each of the following questions with respect to each of the other functions: "How often do you communicate with the following professionals about the condition of the patients in this service?" (frequent communication) "To what extent do the following professionals communicate with you in a timely manner about the condition of patients in this service?" (timely communication) "To what extent do the following professionals accurately communicate with you about the condition of the patients in this service?" (accurate communication) "When a problem arises involving patients in this service, to what extent do the following providers become involved with you?" (problem solving communication) "How much knowledge do the following professionals have about the work they do on patients in this service?" (shared knowledge) "To what extent do the following professionals respect you and your work in this service?" (mutual respect) and "To what extent do the following professionals address their objectives regarding patient care in this service?" (shared goals). We conducted a second-order confirmatory factor

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analysis that confirmed a two-factor construct. Both factors, relationships and communication, measure relational coordination ( $\chi^2/df= 2.551$ ; CFI= .992; TLI= .984; RMSEA= .063). For this study, the sum of all items was used and the Cronbach's alpha was .92.

### **4.8.2.5. Perceived organizational performance.**

Perceived organizational performance was accessed by five performance criteria: total quality management (continuous process improvements toward service quality) team work (work is done by teams) skill development (skill improvements) and empowerment (freedom to take initiatives) all proposed by Wall et al. (2004) and patient satisfaction, as proposed by Cabral et al. (2002). Sample items include: "In this service people can take initiatives" and "In this service the work is carried out as a team". Confirmatory factor analysis corroborated the one-dimensional structure ( $\chi^2/df= 3.263$ ; CFI= .990; TLI= .970; RMSEA= .076). Cronbach's alpha was .85. This scale originally included one question related to efficiency (just-in-time - waiting time to schedule an appointment) which was not used in the hypotheses testing because it was significantly and positively related to the measure of objective performance. In the discussion section this result will be interpreted.

### **4.8.2.6. Objective performance.**

As explained in the introduction, there is a Global Performance Index for hospitals, determined by the ACSS. For this study, two indicators were used: number of appointments of each service and waiting times for appointments that are referenced by Primary Healthcare and other hospitals. The measure considered the differential of each service from 2015 to 2016 in these two indicators. We obtained a percentage value for each indicator and calculated the mean score, which allowed providing a global score of performance for each service. This approach also allowed to compare each service with it self.

#### 4.8.2.7. Control variables.

The results obtained by Singh and Chopra (2016) found significant differences of age and tenure in what regards the variables of workplace spirituality and work engagement, which leads us to believe that the longer the participants are employed at an organization, the more they feel their work is a spiritual exercise, thus strengthening their engagement and passion towards their work. This also suggests that long-term employment tends to be conducive in building a sense of community in the workplace. Also, in what regards RC, a relevant study suggests controlling for functional identity of the care provider respondent because “different functions are expected to engage differently in relational coordination due to the differences in their professional identities and their differential coverage by high-performance work practices.” (Gittell et al., 2010:9). Additionally, Beyer (1990) found gender differences in the accuracy of self-evaluations of performance. Moreover, different education levels among healthcare professionals are expected to have different perspectives of performance. Thus, in order to avoid influence from social and demographic variables, we controlled for age, tenure, job category, gender and education.

### 4.9. Results

Table 3 presents the descriptive statistics and correlations among the variables in the study and Cronbach alphas. HOI is significantly related to RC ( $r = .42, p < .01$ ), WS ( $r = .55, p < .01$ ), WE ( $r = .47, p < .01$ ), perceived performance ( $r = .58, p < .01$ ) and objective performance ( $r = .12, p < .05$ ). RC is significantly and positively related to WS ( $r = .40, p < .01$ ), WE ( $r = .28, p < .01$ ) and perceived performance ( $r = .44, p < .01$ ). In addition to HOI and RC, WS is also significantly and positively related to WE ( $r = .60, p < .01$ ) and perceived performance ( $r = .64, p < .01$ ) and WE is also significantly and positively related to perceived performance ( $r = .49, p < .01$ ). There is not significant relationship between perceived performance and

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objective performance ( $r = .05$ ). The three control variables, age, education and tenure, are all significantly related to HOI.

**Table 3** Descriptive statistics and correlations among variables <sup>abc</sup>

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Age	40.31	11.67	-								
2. Education <sup>a</sup>	4.44	1.16	-.21**	-							
3. Tenure <sup>b</sup>	4.44	1.31	.74**	-.21**	-						
4. HOI <sup>a</sup>	4.26	1.30	.21**	-.01	.13**	(.88)					
5. RC <sup>c</sup>	3.22	.68	.09	.21	.04	.42**	(.92)				
6. WS <sup>a</sup>	5.16	.90	.20	-.06	.12*	.55**	.40**	(.86)			
7. WE <sup>a</sup>	5.18	1.28	.15**	-.00	.05	.47**	.28**	.60**	(.92)		
8. Perceived Performance <sup>a</sup>	4.54	1.31	.08	.04	.02	.58**	.44**	.64**	.49**	(.85)	
9. Objective Performance <sup>d</sup>	.59	7.89	-.03	.04	-.03	.12*	-.08	.04	.02	.05	-

*Notes.* <sup>a</sup> 7-point scale (Education: 1 = primary education; 2 = ninth grade; 3 = completed high school; 4 = undergraduate degree; 5 = graduate degree; 6 = master degree; 7 = doctoral degree); <sup>b</sup> 6-point scale (Tenure 1 = less than 6 months, 2 = between 6 months and 1 year, 3 = between 1 and 5 years, 4 = between 5 and 10 years, 5 = between 10 and 20 years, 6 = over 20 years); <sup>c</sup> 5-point scale; <sup>d</sup> differential of each service from 2015 to 2016 in two indicators; percentage value ranged between -28.55% and 12.49%. Cronbach's alphas are displayed on the diagonal in parentheses. \*  $p < .05$ ; \*\*  $p < .01$ .

We subjected all variables included in each model to a confirmatory factor analysis to test for significant overlap among them.

### 4.9.1. Results for hypothesized model 1

In order to examine whether our measurement model had an acceptable fit, we conducted a series of confirmatory factor analysis (CFA) using AMOS 23. We compared our theoretical four-factor model with two alternative models: a three-factor model, where WS and WE (the two mediators in the *Hypothesis 2*) were combined into a single factor, and one factor model that combined all four constructs into one single factor. The hypothesized four-factor model was the best fitting model ( $X^2/df = 2.99$ ; TLI = .835; CFI = .851; RMSEA = .077; SRMR = .068). As shown in Table 4, Factor loadings from the proposed model were all acceptable, ranging between .622 and .780 for HOI, between .672 and .927 for objective performance, between .579 and .775 for WS, and between .518 and .918 for WE. Moreover, following the recommendation put forth by Podsakoff and colleagues (2012) to test the presence of common method variance (CMV) we included a latent variable in CFA, a

common method factor, and loaded all indicators on this uncorrelated factor (Podsakoff et al., 2012). The fit slightly improved, which is expected (Williams, Cote, & Buckely, 1989) ( $\chi^2/df= 2.71$ ; TLI= .858; CFI= .874; RMSEA= .072; SRMR= .066). The CMV impact is examined by the total variance of the unrelated method factor, which should be below 25 per cent (Williams et al., 1989). In our data, CMV accounted for 4.75 per cent of total variance, which suggests that CMV accounts for little variation in the data.

**Table 4** CFAs for the hypothesized model 1 and alternative models

	$\chi^2$	<i>df</i>	TLI	CFI	RMSEA	SRMR
Four-factor model	1421.924**	476	.835	.851	.077	.068
Three-factor model <sup>a</sup>	2470.259**	493	.667	.689	.110	.095
One-factor model	3543.264**	495	.518	.575	.125	.108
Unmeasured latent factor	1265.016**	466	.858	.874	.072	.066

*Notes.* <sup>a</sup> Merge workplace spirituality and engagement. CFAs = confirmatory factor analyses; *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square error residual; \*\*  $p < .01$ .

#### 4.9.1.1. Hypotheses testing

For double mediation analysis, Hayes' (2013) PROCESS bootstrap macro for SPSS (model 6) was applied, with two mediators, WS and WE. In this model the independent variable was HOI and the dependent variable was objective performance.

We computed two dummy variables for two control variables: Gender - 1=female; 0=male; and job - where nurse=1, other values=0; doctor, where doctor=1 and other values =0, operational assistant, where operational assistant=1 and other values=0; senior health technician, where senior health technician =1 and other values=0; diagnostic and therapeutic technician, where therapeutic technician =1 and other values=0; technical assistant, where technical assistant = 1 and other values=-1. We chose effects coding, using -1 instead of 0 in the sixth variable, to obtain differences for any group from the mean of all groups (Hair et al., 1995).





#### 4.9.2. Results for hypothesized model 2

We followed the same procedures as in model 1. The hypothesized four-factor model, including RC, WS, WE and objective performance, as shown in Table 6, was the best fitting model ( $X^2/df= 2.98$ ; TLI= .835; CFI= .853; RMSEA= .077; SRMR= .066). In our data, CMV accounted for 4.82 per cent of total variance, thus not considered in the analysis.

**Table 6** CFAs for the hypothesized model 2 and alternative models

	$X^2$	Df	TLI	CFI	RMSEA	SRMR
Four-factor model	1409.813**	473	.835	.853	.077	.066
Three-factor model <sup>a</sup>	2435.806**	496	.707	.725	.108	.146
One-factor model	4090.777**	495	.456	.490	.147	.139
Unmeasured latent factor	1226,569**	466	.878	.892	.070	.065

*Notes.* <sup>a</sup> Merge workplace spirituality and engagement. CFAs = confirmatory factor analyses; *df*= degrees of freedom; CFI= comparative fit index; TLI= Tucker–Lewis index; RMSEA= root mean square error of approximation; SRMR= standardized root mean square error residual; \*\*  $p < .01$ .

##### 4.9.2.1. Hypotheses testing

Following the same analysis procedures as in model 1, the independent variable was RC and the dependent variable was objective performance.

This model evaluated whether WS and WE would mediate the relationship between RC and objective performance. Table 7 shows that both mediators do not significantly mediate the relationship between RC and objective performance, once the bootstrap CI included zero while controlling for demographic variables CI= [-.16, .04]. Therefore, our data do not support *Hypothesis 4*. The total effect of RC on objective performance was significant and negatively correlated ( $c=-1.50$ ,  $t=-2.25$ ,  $p < .05$ ). Thus, *Hypothesis 3* is not supported.

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**Table 7** Bootstrapping results

	Mediator 1 Workplace spirituality				Mediator 2 Work engagement				Outcome Objective performance			
	B	t	LL	UL	B	t	LL	UL	B	t	LL	UL
<b>Control variables:</b>												
Nurse	1.19	1.45	-.42	2.81	-.49	-.47	-2.53	1.54	4.31	.56	-10.79	19.42
Doctor	.89	1.07	-.73	2.52	-.53	-.51	-2.58	1.52	1.88	.24	-13.29	17.07
Operational assistant	1.46	1.77	-.17	3.08	.01	.01	-2.03	2.06	4.76	.61	-10.37	19.90
Senior health technician Diagn. and therap. tech.	.60	.68	-1.12	2.33	.14	.12	2.02	2.31	.93	.11	-15.12	16.98
Technical assistant	.91	1.09	-.72	2.55	-.52	-.50	-2.58	1.53	-4.68	-.60	-19.92	10.55
Tenure	.55	1.34	-.25	1.37	.00	.01	-1.01	1.03	.74	.19	-6.83	8.32
Education	-.06	-1.16	-.16	.04	-.10	-1.50	-.23	.03	-.20	-.40	-1.19	.79
Gender	-.02	-.44	-.13	.08	.09	1.38	-.03	.23	1.02	2.00*	.01	2.03
Age	.13	1.15	-.09	.35	-.11	-.79	-.40	.16	1.29	1.21	-.81	3.40
	.02	3.14**	.00	.03	.01	1.53	-.00	.02	.06	1.03	-.05	.18
<b>Independent Variable:</b>												
Relational coordination	.57	7.93**	.42	.71	-.02	-.24	-.22	.17	-1.84	-2.50*	-3.28	-.39
<b>Mediators:</b>												
Workplace spirituality					.83	11.38**	.68	.97	.41	.64	-.85	1.69
Work engagement									.22	.52	-.62	1.07
<b>Total, Direct and Indirect Effects</b>												
					<b>Coef.</b>		<b>SE</b>				<b>t</b>	
<b>Total Effect</b>												
Relational coordination → Objective performance					-1.50		.66				-2.25*	
R <sup>2</sup> = .382, Adj R <sup>2</sup> = .146												
<b>Direct Effect</b>												
Relational coordination → Objective performance					-1.84		.73				-2.50*	
R <sup>2</sup> = .387, Adj R <sup>2</sup> = .150												
					<b>Bootsrapped point estimate</b>		<b>SE</b>				<b>95% CI</b>	
										<b>Lower Limit</b>	<b>Upper Limit</b>	
<b>Indirect effects</b>												
<b>IND 1:</b> RC→WS→ Objective performance					.23		.42			-.57	1.10	
<b>IND 2:</b> RC→WS→WE → Objective performance					.13		.52			-.16	.04	
<b>IND 3:</b> RC→WE → Objective performance					-.00		.04			-.16	.04	

Multiple mediation models. Independent variable: relational coordination. Dependent variable: objective performance. Mediators: WS and WE; \* p< .05, \*\* p< .01

### 4.9.3. Results for hypothesized model 3

We compared our theoretical four-factor model with a three-factor model, where WS and WE (the two mediators in the *Hypothesis 6*) were combined into a single-factor, and with one-factor model, that combined all four constructs into one single-factor. As shown in Table 8, the hypothesized four-factor model was the best fitting model ( $X^2/df= 2.98$ ; TLI= .849; CFI= .863; RMSEA= .082; SMRM= .064). Factor loadings from the proposed model were all acceptable, ranging between .622 and .780 for HOI, between .622 and .885 for perceived performance, between .579 and .775 for WS, and between .518 and .918 for WE. Moreover,

following the recommendation put forth by Podsakoff et al. (2012) to test the presence of common method variance (CMV) we included a latent variable in CFA, a common method factor, and loaded all indicators on this uncorrelated factor. The fit slightly improved, which is expected (Williams et al. 1989) ( $X^2/df= 2.97$ ; TLI= .849; CFI= .864; RMSEA= .071; SRMR= .063). According to Williams et al. (1989) the CMV impact is examined by the total variance of the unrelated method factor, which should be below 25 per cent. In our data, CMV accounted for 10.77 per cent of total variance. Thus, these analyses suggest that CMV accounts for little variation in the data.

**Table 8** CFAs for the hypothesized model 3 and alternative models

	$X^2$	$df$	TLI	CFI	RMSEA	SRMR
Four-factor model	1793,867**	602	.849	.863	.082	.064
Three-factor model <sup>a</sup>	3574.019**	629	.642	.662	.109	.229
One-factor model	4308.162**	629	.526	.576	.122	.098
Unmeasured latent factor	1785.669**	601	.849	.864	.071	.063

*Notes.* <sup>a</sup> Merge workplace spirituality and engagement. CFAs = confirmatory factor analyses;  $df$  = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square error residual; \*\*  $p < .01$ .

#### 4.9.3.1. Hypotheses testing

Following the same analysis procedures as in model 1 and 2, the independent variable was HOI and dependent variable was perceived performance. This model evaluated whether WS and WE would mediate the relationship between HOI and perceived performance. The results shown in Table 9 confirm a double mediation of WS and WE in the relationship between HOI and perceived performance, once the bootstrap CI does not include zero while controlling for demographic variables  $CI = [.01, .05]$ ; we also observed that the relationship between HOI and perceived performance became weaker (although it continues to be significant) when the two mediators were introduced into the model (from .59 to .32) which reveals a partial mediation. Therefore, *Hypothesis 6* is supported by the data. The total

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effect of HOI on perceived performance was significantly and positively correlated ( $c = .59$ ,  $t = 13.61$ ,  $p < .01$ ), therefore *Hypothesis 5* is supported.

**Table 9** Bootstrapping results

	Mediator 1 Workplace spirituality				Mediator 2 Work engagement				Outcome Perceived performance			
	B	t	LL	UL	B	t	LL	UL	B	t	LL	UL
<b>Control variables:</b>												
Nurse	.57	.74	-.93	2.07	-.35	-.34	-2.38	1.67	.02	.02	-1.75	1.80
Doctor	.28	.37	-1.22	1.79	-.44	-.43	-2.49	1.59	.34	.37	-1.44	2.13
Operational assistant	.42	.56	-1.07	1.92	-.03	-.03	-2.05	1.98	-.80	-.89	-2.57	.96
Senior health technician Diagn. and therap. tech.	.25	-.31	-1.84	1.33	.12	.11	-2.01	2.27	.00	.00	-1.87	1.89
Technical assistant	.29	-.38	-1.21	1.80	-.30	-.29	-2.34	1.73	-.17	-.19	-1.96	1.60
Tenure	.07	.18	-.68	.82	.08	.16	-.93	1.10	-.26	-.58	-1.15	.62
Education	-.05	-1.18	-.14	.03	-.11	-1.78	-.23	.01	-.00	-.13	-.11	.10
Gender	-.00	-.14	-.09	.08	.06	1.03	-.05	.19	-.12	-2.26*	-.23	-.01
Age	-.04	-.45	-.23	.14	-.18	-1.40	-.44	.07	.04	.39	-.18	.27
	.01	2.81	.004	.02	.01	1.55	-.00	.02	-.01	-2.16*	-.02	-.00
<b>Independent Variable:</b>												
HOI	.35	11.30**	.29	.41	.15	3.19**	.06	.25	.59	13.61**	.23	.41
<b>Mediators:</b>												
Workplace spirituality					.73	10.28**	.59	.87	.61	8.63**	.47	.75
Work engagement									.11	2.40*	.02	.20
<b>Total, Direct and Indirect Effects</b>												
					<b>Coef.</b>		<b>SE</b>		<b>t</b>			
<b>Total Effect</b>												
HOI → Perceived performance					.59		.04		13.61**			
$R^2 = .627$ , Adj $R^2 = .393$												
<b>Direct Effect</b>												
HOI → Perceived performance					.32		.04		7.37**			
$R^2 = .746$ , Adj $R^2 = .557$												
					<b>Bootsrapped point estimate</b>		<b>SE</b>		<b>95% CI</b>			
									<b>Lower Limit</b>		<b>Upper Limit</b>	
<b>Indirect Effects</b>												
IND 1: HOI → WS → Perceived perf.					.21		.03		.15 .29			
IND 2: HOI → WS → WE → Perceived perf.					.02		.01		.01 .05			
IND 3: HOI → WE → Perceived perf.					.01		.00		.00 .04			

Multiple mediation models. Independent variable: HOI; Dependent variable: perceived performance. Mediators: WS and WE; \*  $p < .05$ , \*\*  $p < .01$ .

### 4.9.4. Results for hypothesized model 4

We followed the same procedures as in model 1, 2 and 3. We compared our theoretical four-factor model with a three-factor model, where WS and WE (the two mediators in the *Hypothesis 8*) were combined into a single factor, and one factor model where a single-factor model combined all four constructs into one single factor. As shown in Table 10, the

hypothesized four-factor model was the best fitting model ( $X^2/df= 2.86$ ; TLI= .867; CFI= .880; RMSEA= .069; SRMR= .065). Factor loadings from the proposed model were all acceptable, ranging between .705 and .891 for HOI, between .622 and .885 for perceived performance, between .579 and .775 for WS, and between .518 and .918 for WE. To test the presence of common method variance (CMV) we included a latent variable in CFA, a common method factor, and loaded all indicators on this uncorrelated factor (Podsakoff et al., 2012). The fit slightly improved, which is expected (Williams, Cote, and Buckely, 1989) ( $X^2/df= 2.78$ ; TLI= .871; CFI= .885; RMSEA= .068; SRMR= .061). According to Williams et al. (1989), the CMV impact is examined by the total variance of the unrelated method factor, which should be below 25 per cent. In our data, CMV accounted for 4.66 per cent of total variance. Thus, these analyses suggest that CMV accounts for little variation in the data.

**Table 10** CFAs for the hypothesized model 4 and alternative models

	$X^2$	$df$	TLI	CFI	RMSEA	SRMR
Four-factor model	1724.388**	602	.867	.880	.069	.065
Three-factor model <sup>a</sup>	3338.847**	629	.693	.710	.105	.207
One-factor model	5218.753**	629	.479	.508	.136	.122
Unmeasured latent factor	1674.244**	601	.871	.885	.068	.061

*Notes.* <sup>a</sup> Merge workplace spirituality and engagement. CFAs = confirmatory factor analyses;  $df$  = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square error residual; \*\*  $p < .01$ .

#### 4.9.4.1. Hypotheses testing

Following the same analysis procedures as in model 1, 2 and 3, the independent variable was relational coordination and the dependent variable was perceived performance. This model evaluated whether WS and WE would mediate the relationship between RC and perceived performance. The values given in Table 11 suggest that both mediators (WS and WE) significantly mediate the relationship between RC and objective performance, because



## **4.10. Discussion**

This section starts with a more detailed analyses and interpretation of the results obtained in each of the four models that we tested. We will then move to a broader interpretation of the general results and its implications for theory and practice.

### **4.10.1. Hospital organizational integration and objective performance**

When testing the hypotheses for Model 1, WS and WE did not revealed the double mediation in the relationship between HOI and objective performance. Additional considerations will be discussed further. However HOI had a significant direct effect on objective performance. The way objective performance is measured indicates efficiency. HOI is therefore the only variable in this study that allows the prediction of objective performance (i.e. organizational efficiency). These results make sense and agree with the propositions of Barki & Pinsonneault (2005) where integration leads to efficiency. Similarly to a significant body of research (Kahn, 1990; Milliman et al., 2003; May et al., 2004; Holbeche & Springett, 2004; Usman & Danish, 2010 and Singh & Chopra, 2016) WS and WE are significantly and positively related.

### **4.10.2. The negative relationship between relational coordination and objective performance**

When testing the hypotheses for model 2, WS and WE did not reveal to be mediators between RC and objective performance. The direct effect of RC and objective performance was statistically significant but with a negative coefficient, which was unexpected. To interpret this result we hypothesize that RC is not related to efficiency as measured in this study. Considering that in the perceived performance measure, one of the items is also related to efficiency – D1 – just in time – we calculated a correlation of RC with that item and the result was the same. The construct of RC, which emphasizes relationships and

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communication flows between individuals in organizational units, is expected to improve the quality of the service provided, mainly in healthcare organizations, and not so much the operational efficiency. Another contribution that can explain this result is the work that is being developed by Preventza (2017) that shows that in (type A) aortic dissection repair, an effective team approach and relational coordination, including patient transfer between hospitals, are more important for patients' outcomes than surgeon volume. This is a line of research that deserves further analysis in future studies.

### **4.10.3. The relationship between objective performance and perceived performance**

One of the items of the original perceived performance measure (just in time: "in this service patients wait a short period of time between booking and the appointment) which was not included in the analysis, as explained in the description of the measure, had a positive and significant correlation with objective performance, and also with the independent variable RC. This result is in line with previous studies (Pearce et al., 1987, Waterson et al. 1999, and, more recently, Albuquerque et al., 2014) that show significant correlations between perceived and objective organizational performance measures. Perceived performance measures may therefore be taken as valid indicators of organizational performance. In this study, in the absence of objective indicators for service and HR quality, the perceived performance measure may therefore be considered as a valid proxy measure of service and HR quality.

### **4.10.4. The double mediation of WS and WE**

WS and WE have a double mediation role in the relationship of both HOI and RC with perceived performance. The interpretation of this result, which contrasts with the results obtained for objective performance, lies in the fact that perceived performance assesses quality of the service provided and the development of human capital. These perceived



performance indicators measure the so-called proximal outcomes (Van De Voorde, 2012) whereas the objective performance indicators are a measure of distal results. Both WS and WE are individual factors that intuitively have an impact on these proximal outcomes, which additionally are related to the quality of service. Additionally, results suggest that increases in WS are associated with increases in WE. A possible explanation lies in the fact that meaningful work is central to WS and an antecedent of engagement as mentioned before.

The contrast between the results obtained with objective and perceived performance, may also be explained by using the lens present in the work of Bunderson (2001) which explained how work ideologies influence healthcare professionals performance. The author suggests that the psychological contract between a professional and his/her employing organization is shaped by both professional and administrative work ideologies. These two work ideologies differ mainly in what regards to the nature of the employment contract. On one hand, administrative ideology is predominantly transactional and the organization is seen as an economic business with employees. On the other hand, professional ideology is predominantly relational with a professional work setting with highly trained professionals. Consequently, these work ideologies shape the relationship between a professional and an employing organization by suggesting a set of a priori expectations about roles, rights, and obligations. Using data obtained from medical professionals, one of the major findings of the study was that perceived breaches of professional role obligations are most strongly associated with lower organizational commitment and job performance (productivity and client satisfaction). Therefore, Bunderson's results (2001) can provide evidence to interpret the results of the present study. This suggests that in this study, on one hand, employees are connected and identified with the proximal outcomes (quality) and, on the other hand, a breach is perceived in what regards their role as professionals and the (administrative) output (efficiency) settled by the hospital (organization).

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### **4.10.5. The relationship between hospital organizational integration, relational coordination and perceived performance**

The two independent variables in this study are significantly and positively related to perceived performance. However, in both cases this relationship is reduced when we consider the mediation effect of WS and WE. In the two last models, the double mediation was supported, notwithstanding the fact that it is a partial mediation. RC is not significantly related to WE and the double mediation is due to the influence of WS on WE.

### **4.10.6. Implications for theory**

The purpose of this study was to analyse the influence of HOI and RC on hospital performance. In line with study A of the dissertation, we included WS as a mediating variable. WS was shown to have a mediating effect in study A of this dissertation (Albuquerque et al., 2014) but this relationship was observed at the primary care organizations. We tried therefore to extend the analysis to the secondary context. Due to the close relationship of WS and WE, we also included these variables in the study.

Our results highlight the relationship between HOI and objective performance. HOI deals with cooperation among internal services, and between these services and external organizations, such as primary healthcare, continuous care and social organizations, as well as international networks and contacts with family. It is therefore expected that HOI may reduce waiting periods and increase the celerity at which patients are received. On the other hand, the number of appointments, the other objective indicator, may be associated with a more careful attention by the primary healthcare, continuous care and social organizations. HOI is also significantly associated with proximal outcomes that have to do with service quality and HR development. Therefore, HOI reveals itself to be a key variable in the deep change process that is being experienced by hospitals, due to the need of cost reduction by NHS.

A second theoretical contribution of the study refers to the role of RC. Gittel (2002; 2008) focused on the impact of RC in different organizations and specifically in hospitals. The outcomes were mainly related to objectives of change initiatives. In this study our results highlight an important role of RC in fostering the quality of the healthcare service provision, but not in terms of achieving operational efficiency. RC is basically related to communication, whereas HOI is a broader construct that also includes communication within and between internal services and external stakeholders.

A third theoretical contribution is the input that our results suggest that somehow expand the literature in what regards interorganizational teams. HOI dimension comprehends management efforts among different organizations, which means that each one them will provide its own expertise to a more global and integrated goal. Although these efforts are now characterized by some initiatives that are not totally embedded in the hospital organizational culture, they basically can be considered the foundation of an interorganizational team, since they are known as the interfirm cooperative arrangements aimed at achieving the parties' strategic objectives (Das & Teng, 2002). Interorganizational teams are supposed to provide “significant exchange, sharing, or co-development and thus result in some form of enduring commitment between the partners” (Gulati & Gargiulo, 1999:140). Moreover, our findings can also be taken as evidence for a link between interorganizational team, measured in this study as HOI, and performance, including quality and efficiency outcomes.

#### **4.10.7. Implications for practice**

The results of this study suggest various implications in what regards the management of healthcare services. A first reflection is related to the crucial role of HOI in the promotion of efficiency and quality in healthcare services. Accordingly, health policies should seek to

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integrate health systems that enhance information and cooperation systems between primary and secondary care. Another contributing factor is related to the development of incentive systems for healthcare professionals, namely in terms of career development and the inclusion of variable compensation indexed to integration goals, similar to cross-selling in the banking system, which will be beneficial both for patient and country. Training sessions that highlight the need for integration and develop individual competencies to practice this integration represent another area that should be developed, taking into account the results of this study.

At the same time, RC has a fundamental impact on the quality of the services provided, as well as on the empowerment of human resources. Bearing in mind that RC is directly linked with communication and the establishment of better relationships between professionals, so that knowledge may be shared, it is important to set shared goals across different services. Additionally, the establishment of more respectful and deeper relationships among professionals can be fostered through regular general meetings, and better formal and informal communications systems. Related with these two suggestions, the analysis of the obtained performance results allows professionals to discuss lessons learned and set future guidelines in a participative, integrative and engaging way.

In what regards performance, the results of this study also suggests that performance indicators should be extended in order to cover quality outcomes.

Another contribution is linked to the concept of psychological ownership. Pierce (2003), argues that “psychological ownership is grounded, in part, in the motivation to be efficacious in relation to one's environment” (p. 87). This means that people like and want to take ownership of their work and performance. This conclusion provides support/elements to highlight the huge impact that individual's beliefs of performance can

impact performance itself. Considering that our data confirmed two double mediation models as presented in models 3 and 4 (dependent variable – perceived performance) and, on the contrary, did not confirm models 1 and 2 (dependent variable – objective performance) these results could suggest that healthcare professionals do not identify themselves with the type of indicators presented in objective performance, which can be a challenge. Thus, in what regards performance, the results of this study also suggests that performance indicators should be extended in order to cover quality outcomes.

#### **4.10.8. Limitations and future research directions**

This study has some limitations that should be considered. It was extremely difficult to collect data due to the closed nature of hospital organizations, which constrains access to the health professionals. For this reason, despite the high number of participants, our sample is comprised of only one hospital. Another limitation of this study could be linked to the difference between the levels of the variables involved. Objective performance is a group variable and the remaining variables are individual ones. Also, in order to improve the robustness of the study, objective performance should include more indicators. This study also presents limitations regarding the common method variance, however the inclusion of objective indicators (derived from a different source) aims to reduce this limitation. Likewise, the initial interviews, and the CMV test, also helped to reduce this risk.

Future studies should take into account external communication in what regards post-hospital trajectories (transfers) in order to improve awareness of the potential and challenges of integration, considering the different levels of care. Another issue that should be raised in future studies is related to the extent to which RC promotes integration, or vice-versa. Additionally, other characteristics of organizational integration in different industries and sectors should be explored, as well as its relationship with different types of organizational

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performance indicators. Also, future studies should explore more holistic approaches that involve the wider patient environment, including family, community and workplace. Furthermore, as sense of community is so important to health professionals, who associate it to success (perceived performance), it would be beneficial to develop programmes that foster this spirit. Finally, considering that WS and WE are performance predictors, healthcare managers should seek to improve these variables.

### **4.11. Conclusion**

This study analysed the effect of HOI and RC on objective and perceived performance. On one hand, the results allowed us to conclude that HOI increases both sides of organizational outcomes: efficiency and quality. On the other hand, RC only produces a positive impact on quality (perceived performance). When testing our models 2 and 4, the outcome variable was perceived performance, which is related to quality. In these cases, the influence of HOI and RC on performance is mediated by WS and WE, which means that these variables, HOI, RC, WS and WE, should be considered in health policies when designing national health systems. This conclusion is also in line with the findings of previous studies, namely the work developed by Minivielle et al. (2008). In a large public hospital, the authors studied how different hospital stakeholders, namely physicians, caregivers and administrative staff, conceive performance. Based on the model of competing values of Quinn & Rohrbaugh (1983) the study revealed that all stakeholders assigned the greatest importance to four sub-dimensions of the “*Human relations*” model, although one of the sub-dimensions ranked among the top five belonged to the “*Rational goal*” model: Efficacy – or the ability to cure. Similarly, these results and our findings suggest that health professionals also prioritize productivity translated as health gains. Another aspect that reinforces this idea was the absence of impact of WE on objective performance. The work done by Christian et al.

(2011) helps to explain this result by highlighting that engagement differs conceptually from many traditional attitudes since it is closely aligned with task-specific motivation. Therefore, healthcare organizations, namely hospitals, should lead to an increase in efficiency, without neglecting efficacy and service quality. The findings can provide some relevant inputs for researchers, managers and policy makers, regarding organization development efforts aimed at implementing quality and efficiency in hospitals.





# 5

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## General Conclusions

*Coming together is a beginning; keeping together is progress; working together is success.*

Henry Ford

## 5. General conclusions and implications

This dissertation starts with Study A, which encompasses a comparison between two types of teams that represent the primary healthcare of the National Health Service (NHS). It aims to study the influence of three dimensions of workplace spirituality (inner life, meaningful work and sense of community) on perceived and objective organizational performance in two primary healthcare settings: health centres (HCs) and family health units (FHUs), differing in terms of work organization. With a sample of 266 healthcare workers, including doctors, nurses and administrative staff, the study showed that, in both groups, perceived and objective organizational performance is predicted by *sense of community*. Additionally, FHUs presented significantly higher values in perceived and objective organizational performance, as well as *sense of community* and *meaningful work*. Finally, workplace spirituality and sense of community were found to mediate the relationship between work group and perceived and objective organizational performance. Therefore, smaller self-selected teams appear to enhance a supportive workplace and foster social relationships in the organization, as well as to provide greater decision latitude, autonomy and planning. The development of an organizational culture, in which personal values are shared by the team members, seems to strengthen the sense of community and, as a result, individual and organizational performance. Primary healthcare services, and particularly FHUs, reveal the importance of workplace spirituality. Work teams with higher sense of community had higher performance results, which may therefore be an input in policy decisions regarding primary healthcare.

Subsequently, influenced by healthcare challenges literature, the research includes study B, which is a qualitative one, that explores which change initiatives undertaken by hospitals are contributing to healthcare integration, by explaining how these initiatives are connecting

## **GENERAL CONCLUSIONS**

and bringing together different levels of healthcare. Study B also provides a definition of hospital organizational integration. Based on 20 interviews with key informants, this study provided a better understanding of the inter-relationships among the dimensions of integrated care from a secondary care perspective. Specifically, our conceptualization includes multiple facets that play complementary roles in the hospital's contribution for an integrated healthcare, including different dimensions of the hospital's activity and different stakeholders. Thus, the way these integration levels interact will vary according to the specific context. For this reason, we developed a conceptual framework with seven second-order themes that included relationships with the community (e.g. primary care, social organizations and continuous care organizations) the processes of communication (e.g. internal, family/patient and international) and the level of responsiveness to assistential care by hospital professionals. Hence, the development of this framework contributes not only to the existing literature, by clarifying the role of the hospitals in healthcare integration, but also by presenting an agenda that hospital managers can follow in order to achieve a better integrated internal and external system. Moreover, these findings can also lead to guidelines for the NHS and policy makers in what regards integration.

Finally, study C analyses the relationship of hospital organizational integration (HOI) and relational coordination (RC) with both objective performance outcomes, which measure efficiency, and perceived performance outcomes, which measure service quality. The double mediating role of workplace spirituality (WS) and work engagement (WE) is also considered. The purpose of this study is to analyse the influence of HOI and RC on hospital performance. In line with the first study of the dissertation, we included WS as a mediating variable. WS was shown to have a mediating effect in the first study of this dissertation (Albuquerque et al., 2014) but this relationship was observed at the primary care organizations. We tried therefore to extend the analysis to the secondary context. Due to the

close relationship of WS and WE, we also included these variables in the study. On one hand, the results allowed us to conclude that HOI increases both sides of organizational outcomes: efficiency and quality. On the other hand, RC only produces a positive impact on quality (perceived performance). When testing our models 2 and 4, the outcome variable was perceived performance, which is related to quality. In these cases, the influence of HOI and RC on performance is mediated by WS and WE, which means that these variables, HOI, RC, WS and WE, should be considered in health policies when designing national health systems. This conclusion is also in line with the findings of previous studies, namely the work developed by Minivielle et al. (2008). In a large public hospital, the authors studied how different hospital stakeholders, namely physicians, caregivers and administrative staff, conceive performance. Based on the model of competing values of Quinn & Rohrbaugh (1983) the study revealed that all stakeholders assigned the greatest importance to four sub-dimensions of the “*Human relations*” model, although one of the sub-dimensions ranked among the top five belonged to the “*Rational goal*” model: Efficacy – or the ability to cure. Similarly, these results and our findings suggest that health professionals also prioritize productivity translated as health gains. Another aspect that reinforces this idea was the absence of WE impact on objective performance. The work done by Christian et al. (2011) helps to explain this result by highlighting that engagement differs conceptually from many traditional attitudes, since it is closely aligned with task-specific motivation. Therefore, healthcare organizations, namely hospitals, should lead to an increase in efficiency, without neglecting efficacy and service quality. The findings can provide some relevant inputs for researchers, managers and policy makers, regarding organization development efforts aimed at implementing quality and efficiency in hospitals.

Hopefully, these studies can be food for thought in how to pursue volume and value-based performance in primary and secondary healthcare organizations.



# 6

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