

Commitment or control: Patient safety management in Dutch hospitals

Published as:

Alingh, C. W., van Wijngaarden, J. D. H., Paauwe, J., & Huijsman, R. (2015). Commitment or Control: Patient Safety Management in Dutch Hospitals. In R. Valle-Cabrera & A. López-Cabrales (Eds.), New Clues for Analysing the HRM Black Box (pp. 97-124). Newcastle upon Tyne, United Kingdom: Cambridge Scholars.

ABSTRACT

Little is known about how to effectively manage healthcare professionals to optimise patient safety. Human resource management (HRM) broadly distinguishes two management approaches that guide employee behaviours: control- and commitment-based management. This qualitative multiple case study aims to explore whether these management approaches are relevant for patient safety management in Dutch hospitals. Whereas the HRM literature describes that organisations focus either on control- or commitment-based management, our results demonstrate that hospitals use a combination of both management approaches. Some hospitals focus more on control-based management, whereas other hospitals emphasise elements of commitment-based management. Once hospitals emphasise commitment-based management, they do not completely abandon control; however, the balance shifts from managerial towards professional control. In addition, the results identified that the combination of management approaches varies within hospitals (e.g., depending on differences in the departments, management positions or job categories), as well as over time (e.g., depending on crisis situations and circumstances that distract hospital's attention from patient safety).

INTRODUCTION

The relationship between human resource management (HRM) and organisational performance has been a key topic in HRM research in the previous decade. Effective employee management via the implementation of appropriate HRM practices or bundles has been positively related to organisational performance regarding productivity, product or service quality, customer satisfaction and financial performance (e.g., Boselie, Dietz, & Boon, 2005; Combs, Liu, Hall, & Ketchen, 2006; Guest, 2011; Jiang, Lepak, Hu, & Bear, 2012; Paauwe, Wright, & Guest, 2013). In healthcare, quality is a key performance indicator, and one of the most important dimensions is (patient) safety (Institute of Medicine, 2001). The delivery of safe care requires the efforts of all employees because healthcare is a multidisciplinary endeavour, highly labour-intensive and its success is dependent on a well-motivated and appropriately skilled workforce (Buchan, 2004; Townsend & Wilkinson, 2010). However, little is known regarding how to effectively manage medical professionals to optimise safety.

Healthcare is considered to be a high-risk industry because both employees and patients face various safety risks. Hence, safety is a top priority within healthcare organisations, which is similar to other high-risk industries, such as military and civil aviation and nuclear power-generation plants (Hudson, 2003). Since the publication of the ground-breaking report *To err is human: building a safer health system* (Kohn, Corrigan, & Donaldson, 2000), several studies have shown that healthcare can be more hazardous than beneficial for patients because of preventable iatrogenic morbidity and mortality (e.g., Baker et al., 2004; Hogan et al., 2012; Vincent, Neale, & Woloshynowych, 2001; Zegers et al., 2009). To illustrate, Langelan et al. (2013) recently reported that preventable adverse events occur in 1.6% of patients admitted to Dutch hospitals, and up to 1,000 of these patients die each year because of preventable medical errors. The results of the report *To err is human* and subsequent studies have focused the spotlight on safety incidents in healthcare and have triggered health authorities, care organisations and professionals to initiate safety improvement initiatives (Leape & Berwick, 2005).

Despite the extensive efforts, patient safety has been difficult to manage (Leistikow, Kalkman, & de Bruijn, 2011), and progress towards improvements has been slow (Landrigan et al., 2010; Leape et al., 2009). A key challenge of safety management is that executives face difficulties in managing medical professionals, who may experience executive involvement in safety interventions as a threat to their discretion and professional autonomy (Leistikow et al., 2011). Traditionally, medical professionals have worked relatively independent of both the administrative hierarchy and their colleagues (Freidson, 2001). For example, in the Netherlands, most medical specialists are not employed by a hospital, but they form independent partnerships, which have a contractual relationship with a hospital. However, in the previous three decades, healthcare professionals have increas-

ingly been exposed to “*the managerialization of health care*” (Noordegraaf & Van der Meulen, 2008, p. 1055). Driven by factors such as zero risk tolerance, the economisation of healthcare and demands for public accountability, management practices and control mechanisms have been implemented that regulate the work of professionals (Numerato, Salvatore, & Fattore, 2012). A similar trend is evident for patient safety management. Following the example of aviation safety practices, healthcare organisations have widely implemented formalised systems of regulation, monitoring and managerial control. However, it is questionable whether these practices are the most effective strategies for managing safety in healthcare (Katz-Navon, Naveh, & Stern, 2007; Rogers & Gaba, 2011).

To date, research on the effectiveness of safety management has mainly focused on studying the effects of single interventions on safety outcomes. As safety interventions are never implemented in isolation, it may be relevant to shift the focus to the combination of mutually reinforcing safety practices and to examine safety management approaches that are used to optimise patient safety. HR management broadly distinguishes two management approaches that guide employee behaviours: control- and commitment-based management (Arthur, 1992; Arthur, 1994; Walton, 1985). The former is a formalised, top-down approach that focuses on regulating, monitoring and controlling employee behaviours; whereas commitment-based management is characterised by creating awareness and facilitating an internalisation of the organisation’s mission, vision and goals to ensure employees demonstrate appropriate behaviour (Boselie, 2002; Walton, 1985). Both management approaches may also be applicable to and relevant for patient safety management (Khatri, Baveja, Boren, & Mammo, 2006); however, to date, no research has been conducted using these concepts. Therefore, the aim of this study is twofold. First, this study aims to explore whether the concepts of control- and commitment-based management are relevant for patient safety management in Dutch hospitals. Second, we aim to explore differences in the safety management approach between and within hospitals, as well as the reasons that underlie the variations.

THEORETICAL FRAMEWORK

In the literature, several classifications of employee management practices, or management control, are distinguished (e.g., Arthur, 1992; Harzing, 1999; Merchant, 1982; Ouchi, 1979; Walton, 1985). Management control mechanisms can be characterised based on the level of hierarchical authority (direct, formal control versus indirect, informal control), the degree of formalisation (formalised control mechanisms that consist of regulations and formal procedures versus cultural mechanisms based on social interaction), and the focus of control (focus on preferred human behaviour versus desired outputs) (Harzing, 1999; Merchant, 1982). These different dimensions are used and integrated in the man-

agement approaches described by Walton (1985) and Arthur (1992; 1994), which included control- and commitment-based management.

Control-based management

A control-based management approach is based on the desire to establish order, exercise control and achieve efficiency (Walton, 1985), as employees are supposed to be incapable of self-regulation (McGregor, 1960). Therefore, this management approach is first characterised by the enforcement of compliance with specified rules and procedures (Eisenhardt, 1985; Walton, 1985). Rules and procedures are attempts to standardise and regulate work processes and to increase predictability. In safety management, this is a commonly adopted approach, which is reflected in the extensive use of protocols, guidelines and checklists to avoid various safety risks (e.g., de Vries et al., 2010; Salzwedel et al., 2013; Thomassen, Storesund, Sjøfteland, & Brattebø, 2014). Consistent with this approach, control-based management emphasises actively monitoring employee behaviour and providing them with feedback (i.e., rewarding or disciplining employees) depending on the adequacy of following directives (Bass & Avolio, 1994; Boselie 2002). Monitoring employee behaviours may help supervisors to identify errors and safety risks that require attention; by providing feedback on the employees' actions, they may encourage frontline staff to exhibit appropriate (safety) behaviours (Flin & Yule, 2004). Organisations that adopt a control-based management approach are characterised by centralised decision-making, top-down allocation of authority and status symbols explicitly linked to management positions (Boselie, 2002; Walton, 1985). Finally, according to a control-based approach, individuals are held accountable for their own performances and may be rewarded based on specific, quantifiable employee outcomes, which applies the principle of *"a fair day's pay for a fair day's work"* (Arthur, 1994; Walton, 1985, p. 78). This compensation strategy, which strengthens extrinsic motivation in employees, requires management to have relatively complete knowledge of work-processes and a high-ability to effectively set (minimum) performance standards and adequately measure an individual's output to offer employees appropriate performance-related pay (Eisenhardt, 1985; Ouchi, 1979).

Commitment-based management

In contrast, the philosophy of a commitment-based management approach is that fully committed and intrinsically motivated employees will deliver better performances, are capable of self-discipline and are willing to assume responsibility or demonstrate initiative (Khatri et al., 2006; Walton, 1985). First, this management approach is characterised by shaping a work environment where control and coordination depend on shared goals and values (Walton, 1985), which are forged by factors such as socialisation and training programs (Arthur, 1992; Ouchi, 1979). Therefore, a commitment-based management

approach requires leaders who create awareness of organisation's mission, vision and goals and who empower and support their employees (Bass & Avolio, 1994; Boselie, 2002; Khatri et al., 2006). Leader commitment to patient safety underscores the priority given to safety and may affect employee commitment (Flin & Yule, 2004). Employees who have internalised safety norms and who highly value patient safety are supposed to better act accordingly and demonstrate a stronger sense of personal responsibility and shared ownership of patient safety (Hughes, Chang, & Mark, 2009). This is, in turn, associated with a reduction in the potential safety and adverse events (Pronovost et al., 2003; Singer, Lin, Falwell, Gaba, & Baker, 2009). Furthermore, by supporting and empowering employees, leaders may be able to create a learning environment where safety concerns and insights are shared and safety incidents and near-misses are reported (Edmondson, 2004). Consistent with this approach, employees are encouraged to participate or be involved in managerial decision-making and are invited to demonstrate initiative (Arthur, 1994; Walton, 1985). According to this approach, the management hierarchy is relatively flat and every employee is supposed to be a "manager" whose expertise is used to reach organisational goals (Walton, 1985). Finally, a commitment-based management approach does not rely on minimum performance standards, and teams, rather than individuals, are held accountable for their performances; therefore, this approach may encourage employees to improve safety performance beyond expectations (Boselie, 2002; Flin & Yule, 2004; Walton, 1985).

In conclusion, the concepts of control- and commitment-based management represent two distinct management approaches that are used to influence employee behaviours (Arthur, 1994; Walton, 1985). Although some scholars consider elements of control- and commitment-based management to be complementary (e.g., Ouchi, 1979), organisations predominantly rely on one management approach, which is chosen based on the organisational objectives, task characteristics and environmental conditions (Arthur, 1994; Walton, 1985). Thus, organisations primarily focus on either control- or commitment-based management. The question remains whether this is also the case in safety management: do hospitals prefer one management approach or do they combine elements of both approaches?

METHODOLOGY

A qualitative multiple case study design (Yin, 2008) was used to explore safety management approaches in Dutch hospitals (N=5). The selected cases included both general and top-clinical teaching hospitals, which were located across the Netherlands and varied in scores on safety performance based on publicly available ranking lists (i.e., Elsevier rankings). The ranking consists of a combined score of various safety performance indicators.

Because, the ranking lists have been criticised for fluctuation over time (Pons, Lingsma, & Bal, 2009), the scores of three successive years have been combined. Hence, a diverse set of hospitals was included in this study to broadly gain insight into safety management in Dutch hospitals.

Table 1 Case characteristics of the five hospitals

	Hospital A	Hospital B	Hospital C	Hospital D	Hospital E
Type of hospital	Top-clinical	Top-clinical	General	General	Top-clinical
Hospital size (no. of beds)	<500	750-1000	500-750	500-750	>1000
Safety performance [†]	Low	Low	Low	Mediocre	High

† Safety performance has been reported on a scale that ranges from 1 to 4. Scores < 2 are indicated as low, scores of 2-3 are indicated as mediocre and scores > 3 are indicated as high.

Within each hospital, data collection consisted of a combination of document analyses and semi-structured interviews. Forty-five interviews were conducted with 50 respondents (some interviews were duo-interviews). To obtain a broad overview of safety management, a multi-actor approach was adopted in which the respondents were selected based on their role as key actors in safety management. The respondents included members of the board of directors, medical managers, safety managers, business unit managers and nurse managers. Table 2 provides an overview of the respondents who participated in the study. All interviews were conducted in September 2013 through April 2014 and lasted one hour on average.

Table 2 Number of respondents per function

	Hospital A	Hospital B	Hospital C	Hospital D	Hospital E	Total
Safety manager / advisor	1	2	3	1	1	8
Board of directors	1	1	1	1	1	5
Medical manager / advisory board	2	2	2	4	4	14
Business unit manager	2	2	1	0	2	7
Nurse manager	4	2	2	3	3	14
Project manager	1	0	1	0	0	2
Total	11	9	10	9	11	50

The interviews aimed to explore the management approach that hospitals adopted to manage patient safety. The interview topics were derived from the theory of control- and commitment-based management (e.g., Arthur, 1992; Boselie, 2002; Walton, 1985). Furthermore, document analyses (including strategic policy plans, project plans and

reports of safety management projects) were conducted for a first impression of safety management in the participating hospitals and to identify additional topics to discuss during the interviews. The interviews focused on the organisation's safety strategy, risk management, respondents' role in safety management and safety interventions that are applied in the hospital or the department (e.g., formalisation, socialisation, leadership). The respondents were also asked to elaborate on why the hospitals adopted certain safety interventions or management practices.

All interviews were audio-recorded and transcribed verbatim. The data obtained from the interviews and documents were subsequently analysed using qualitative data analysis software Atlas.ti to conduct a thematic analysis (Braun & Clarke, 2006). First, the researchers familiarised themselves with the data by (re)reading transcripts and documents and identifying "patterns of meaning and issues of potential interest in the data" (Braun & Clarke, 2006, p. 86). Second, initial codes were generated to identify topics of interest. To identify codes, inductive- and deductive-coding were combined. The initial list of codes consisted of key-elements of the theoretical concepts control- and commitment-based management. This list included codes such as 'formalisation', 'monitoring' and 'commitment of managers'. However, the researchers remained open for codes that emerged from the data and searched for specifications of the initial codes. The initial code 'monitoring', for example, covered elements such as 'checking registrations in patient records', 'audits', and 'direct observations by supervisors', as well as 'monitoring by professionals'. Furthermore, new codes emerged from the data, such as 'role modelling behaviour'. In the end, all codes were combined into broader categories or (sub)themes, which were based on similarities in the data, as well as the theory. The final themes provided the basis for the results presented in this paper.

RESULTS

The results demonstrated that the concepts of control- and commitment-based management are indeed relevant for understanding how safety is managed in Dutch hospitals. All studied hospitals combine elements of these management approaches; however, variations exist in the emphasis placed on different elements. First, the characteristics of control- and commitment-based management will be described. The differences between the hospitals, within the hospitals and over time are subsequently discussed, as well as the factors that affect variation in the adopted management approach.

Control-based safety management

In all studied hospitals, patient safety is highly regulated. The information necessary to safely complete care processes is contained in a wide range of detailed (clinical) guide-

lines, protocols and checklists. This is illustrated by the following example: “[We are] a formalised department. Actually, everything is captured [on paper]. If you look at surgical procedures, related medication, when what steps should be taken, who does what, all of it is actually described” (nurse manager, hospital A). These rules and procedures, of which the majority have been established by medical professional organisations, were initially formulated as recommendations for delivering high-quality care, and healthcare professionals were allowed to breach the rules if they considered it to be beneficial for a patient’s care. Consistent with this approach, several safety checklists were developed to serve as mnemonics of the steps that should be taken during care delivery.

Safety protocols, guidelines and checklists have increasingly been adopted by external regulatory bodies and hospital management as a tool for managerial control. Safety regulations structure work processes and increase predictability, which thereby enables managers and regulatory bodies to check whether healthcare professionals follow the steps that are described. Within hospitals, both supervisors and healthcare professionals with specialised knowledge regarding specific safety issues observe employee behaviours during care delivery. Furthermore, compliance is monitored based on registrations in (electronic) patient records, for example, to verify whether all elements of a surgical safety checklist are completed. Additionally, compliance is assessed during (compliance) audits and screenings, where quality advisors, managers or healthcare professionals use checklists to assess whether steps in a specific procedure are followed. To illustrate: “During a compliance audit we observe how someone carries out [a time-out procedure in the OR], is the surgeon in charge, is it captured in the medical record, is it spoken out loud, is it done while the entire team is present?” (safety advisor, hospital B).

Based on the monitoring results, employees are provided with feedback on their compliance with safety regulations. The results of compliance audits and registrations in patient records are reported in departmental newsletters and discussed during team meetings. Moreover, in some departments, the results are discussed on a daily basis during handovers to create an awareness of the relevance of safety compliance. Healthcare professionals also receive individual feedback if supervisors or co-workers note non-compliance, because employees are held accountable for their own compliance behaviour. In the case of recurrent non-compliance, all hospitals implemented formal sanction policies targeted at specific safety issues, such as professional dress-code policies. Healthcare professionals who repeatedly ignore safety rules and procedures face warnings from their direct supervisors, reprimands from the board of directors and are, ultimately, dismissed or fired, which is illustrated by the following example: “If you see a doctor wearing both his uniform and a watch, or a nurse wearing rings [...] or a physician wearing a long sleeves’ coat, that is not allowed, and you are in violation. In that case, in our hospital, you receive a ‘yellow card’, and two ‘yellow cards’ means you don’t work here anymore.” (safety manager, hospital B). Sanction policies are not only aimed at punishing employees

for non-compliance, but they are also used to convey the importance of patient safety. As one of the respondents said: *“The fact that you can [apply sanctions] shows that you as a hospital consider [patient safety] to be important, that is also a signal you give.”* (medical manager, hospital E).

It is worth noting that hospitals frequently provide feedback on non-compliance, but employees rarely receive compliments when they follow safety rules and procedures. However, some hospitals have implemented a pay-for-performance reward system for medical specialists who work in independent partnerships, which offers physicians a positive incentive for safety compliance and participation in safety initiatives.

In addition to the elements of managerial control, managers and supervisors in charge of the implementation of safety regulations attempt to create conditions to ensure that safety norms are met; for example, access to hand alcohol should facilitate hand hygiene compliance. They also trigger compliance by informing employees about the content and value of (new) safety rules and procedures. In this context, medical managers and leading medical specialists play a major role in explaining safety regulations and stimulating compliance of physicians because they are considered credible messengers. *“The combination of a quality officer who is also a physician, and the Healthcare Inspectorate who tightly regulates, corrects and controls, is the perfect formula for quality and safety improvement in hospitals.”* (medical manager, hospital B). Apart from the Healthcare Inspectorate, external pressure from health insurance companies and the media is also used to highlight the importance of safety compliance and to legitimise the enforcement of compliance with safety protocols, guidelines and checklists. As a member of the board of directors (hospital C) explained: *“Let’s say that I made sure that the Healthcare Inspectorate helped us out a bit. So, at a certain moment, I obviously used the Inspectorate to exert external pressure. [...] Especially, the threat of being placed under supervision, under increased supervision, ensured that people eventually complied”.*

In conclusion, in healthcare, control-based safety management is not substantially reflected in the existence of clinical protocols, guidelines and checklists but in the way these safety regulations are increasingly incorporated in managerial control systems.

Commitment-based safety management

Commitment-based management is a more amorphous management approach that focuses on stressing the priority of patient safety and strengthening intrinsic motivation in employees. Respondents describe that healthcare professionals are frequently not aware of the safety risks that care delivery entails because they perceive their own performance to be adequate. Therefore, hospitals attempt to increase consciousness by making employees aware of the potential safety risks and deficiencies in their own performances. This awareness is first created by demonstrating evidence of the potential safety risks and the effectiveness of safety interventions; for example, via the discussion

of research findings. Furthermore, awareness is also created by providing insight into the hospital's own safety performances. Serious safety incidents that occur in a hospital are discussed with the healthcare professionals involved in the incident to stimulate a shared learning process. Furthermore, the results of incident analyses, as well as patient outcome measures that are available for a department, such as the number of pressure ulcers or hospital-acquired infections, are discussed during team meetings. Some hospitals also compare their (safety) outcome measures with similar units in other hospitals to motivate healthcare professionals to improve their safety performance. As a medical manager (hospital E) described: *'We have a sort of ICU benchmark [...] and this showed that for certain groups of patients, we have to do better. That hurts because we thought we were doing well and then [the results] showed that was not the case'*.

In addition to providing performance information, hospital management may also motivate healthcare professionals for patient safety by demonstrating that safety is highly valued within the organisation. The priority attached to patient safety is shown, for example, by recurrently bringing the topic to the employees' attention. To this end, patient safety is discussed during introduction programs for new employees, in newsletters, during information markets, in e-learning and training programs, or during team meetings. Specific safety topics, such as medication errors or hand hygiene, are discussed; however, managers and supervisors also explain in more general terms what patient safety is by providing examples of safety incidents. The explanation of safety-related issues and demonstration of the safest way to complete care processes are also part of the coaching role of nurse managers.

Furthermore, top-management commitment stresses the importance of patient safety. Top-management exhibits commitment by participating in safety walk rounds, where they engage in dialogue with healthcare professionals regarding safety risks and improvement initiatives. Commitment is also demonstrated by role modelling behaviours of both supervisors and leading medical specialists. *"We agreed that doctors do not wear a watch, rings or long sleeves under their coats. [...] Then, I really have to stand out as a kind of figurehead, I really have to comply. Nobody should ever be able to confront me with that. And the other way round, I would confront a doctor who is wearing a watch."* (member of the medical advisory board, hospital A). This role modelling behaviour is considered crucial to ensuring the credibility of the communication concerning patient safety. If role models, who earn respect and have close relationships with employees on hospital wards, practise what the hospital preaches, they may encourage healthcare professionals to imitate desired safety attitudes and behaviours. As a nurse manager (hospital B) described: *"Your team is a reflection of yourself, so if I am very open and honest [...] they are invited like it's ok to be vulnerable around here"*. In this respect, role modelling behaviour may trigger a socialisation process, which causes a preferred behaviour, such as speaking up regarding safety concerns, to be considered normal practice.

Commitment-based safety management also aims to encourage employees' sense of ownership of patient safety by involving them in safety management. Supervisors actively invite employees to make safety recommendations and apply their medical expertise to safety matters. Thus, they are encouraged to report safety risks or incidents, make suggestions for safety improvement and question the suitability and feasibility of safety initiatives. Furthermore, healthcare professionals who developed specialised knowledge regarding specific safety topics provide their colleagues with real-time feedback on their performances; they coach their co-workers, and they are also involved in training programs to inform their colleagues regarding safety topics. This peer education helps to clearly communicate a message and to overcome resistance because the initiatives are more easily accepted if they are introduced by a medical professional rather than someone from hospital management.

Variation between hospitals

None of the hospitals exclusively focused on control- or commitment-based safety management; they all combined elements of both management approaches, although variations were present.

All hospitals implemented the basics of clinical guidelines, protocols and checklists to manage patient safety. These safety rules and procedures express the confidence placed on evidence-based medicine; however, they also form reflections of the safety regulations that are initiated by medical professional organisations and enforced by regulatory bodies, such as the Healthcare Inspectorate. The hospitals incorporated these rules and procedures in systems of management control. All hospitals applied several monitoring procedures and implemented feedback systems, as well as sanction policies, targeted at specific safety issues to underscore the need to comply with the rules. To date, minimal variation was identified between the hospitals. Accordingly, in all studied hospitals, control-based management forms the basics of safety management.

Our results demonstrate that in hospitals B and C, safety management is largely dominated by the elements of control-based management. For example, this is illustrated by nurse managers who argue that in their hospital, the priority attached to patient safety is reflected *"in everything that is imposed upon us, in the hospital-committees that check things out, in the test samples that we have to fill out, and all things that have to be presented to the boss"* (nurse manager, hospital B). Thus, in this hospital, the priority of patient safety is reflected in the control-based management approach used by the organisation. Both hospitals also make considerable use of external pressure to create a sense of urgency and to reinforce adherence to rules and procedures. Hospitals face external pressure from multiple sources, such as the Healthcare Inspectorate, health insurance companies or the media, which could respectively result in hospital-wide or departmental sanctions, a fall in production and associated financial losses, or a loss of

reputation. These consequences generate (extrinsic) motivation in employees to participate in patient safety or comply with the rules. To illustrate, *“There is pressure from health insurance companies. They do not purchase certain types of care if you do not meet their quality standards. Unfortunately, this external pressure is crucial to motivate people”* (member of the board of directors, hospital C).

On top of a control-based management approach, all studied hospitals incorporated elements of commitment-based safety management. As a respondent explained: *“You have to measure, identify and screen things, and at a certain point you also have to say this is it and that includes control as well. But the other side is just as important and that is strengthening the motivation and professional drive of healthcare professionals”* (member of the board of directors, hospital E). Whereas in hospitals B and C, these commitment-based elements are largely overshadowed by the emphasis placed on control-based management, they are prioritised in hospitals A, D and E. In these hospitals, patient safety is high on the list of top-management’s priorities, which is reflected in top-managers’ commitment to the topic: *“We try to demonstrate the importance that we, as a board, attach to patient safety at all organisational levels [...] and also to participate ourselves, for example, in safety walk-rounds”* (member of the board of directors, hospital D). In contrast, in hospital B, a member of the board of directors said: *“[Patient safety] is not a topic that we are involved in, which became painfully clear again when the Inspectorate visited us”*. Thus, variation was identified in top-management’s involvement in patient safety.

Additionally, hospitals A, D and E placed more emphasis on creating a sense of ownership for patient safety because safety is considered an essential part of care delivery rather than a managerial issue. Therefore, managers and supervisors in these hospitals stress the importance of explaining safety issues to their employees and laying safety responsibilities with healthcare professionals on the shop-floor, without directly imposing sanctions for not meeting safety requirements. Moreover, in these hospitals, the employees are actively involved in the development and implementation of safety rules and initiatives. For example, this is reflected in hospital E where medical specialists led the development of patient outcome measures intended to objectify patient safety and the results of the care that they delivered. These initiatives generate positive energy and contribute to a drive for patient safety, especially when they are led by healthcare professionals. As a nurse manager in hospital D said: *“It is all about the results. If you can reach this because they [the employees] came up with the ideas themselves and just wrote down on a coaster, then this is what we decided on, and I think that is fine”*.

Once hospitals adopted elements of commitment-based safety management, this did not imply that they completely abandoned control. A foundation of control-based management remains, and managerial control is also partially replaced by professional control. In hospitals A and E, rather than being controlled by managers or supervisors,

the healthcare professionals play a major role in monitoring each other's behaviours, providing co-workers with feedback on (non-) compliance and speaking up in case of unsafe acts. Professional control occurs on an informal basis during the teamwork of healthcare employees; however, a more formalised approach is also incorporated. An example of the latter is shown in hospital A, where nurses monitor the compliance of healthcare professionals at the ICU: *"Every colleague takes care of a specific protocol, for a certain period of time, and audits his or her co-workers' behaviour"* (nurse manager, hospital A). A similar approach was introduced by medical specialists in hospital E: *"A time-out procedure has been introduced which has to be completed before the start of every round; [we check] everyone's hands, whether they took off their rings, watches and whether they all used hand-alcohol"* (member of the medical advisory board, hospital E). In both examples, healthcare professionals played a leading role in introducing the tools; this role appears to be crucial for successfully adopting professional control: *"You would never be able to enforce this, but since [the time-out procedure] was initiated by the medical advisory board, it works"* (member of the board of directors, hospital E).

In conclusion, all studied hospitals combine elements of control- and commitment-based management to manage patient safety. Our results demonstrated that all hospitals implemented a foundation of control-based management; moreover, different elements of commitment-based management were also used. However, if we position hospitals on a continuum of control- and commitment-based management (see Figure 1), considerable differences were identified regarding the emphasis placed on commitment-based management. Some hospitals almost exclusively focus on control-based management, whereas other hospitals mainly concentrate on elements of commitment-based management. In the latter group of hospitals, control-based management still forms the basics of safety management, although a shift is observed from a focus on managerial control towards professional control.

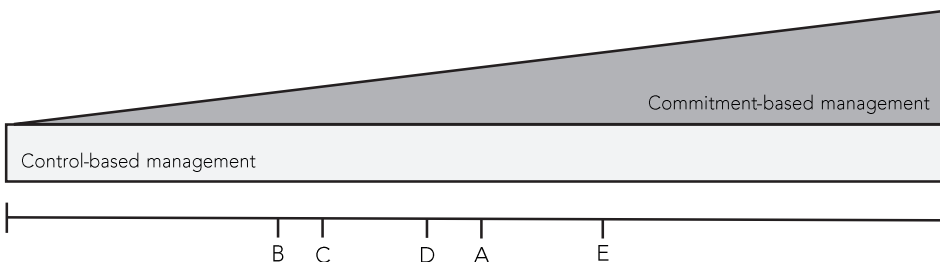


Figure 1 Positioning hospitals on a continuum of control- and commitment-based management

Variation within hospitals

In addition to the variations between the hospitals, our results also indicate differences in the management approach adopted within the hospitals. Within the hospitals, variation was identified based on the respondents' positions in the managerial hierarchy, the differences in hospital departments, and the job categories of the employees.

Managers and supervisors, who hold different positions in the management team of a hospital, perform different contributions to patient safety management. For example, whereas the members of the board of directors have a central role in stressing the importance of patient safety, which demonstrates commitment, and setting limits on acceptable safety behaviour; nurse managers must implement safety policies at the ward level and motivate healthcare professionals to follow safety rules and procedures. Consequently, nurse managers display a very diverse set of management behaviours, including monitoring and feedback on (non-) compliance, as well as continuous safety communication, encouraging participation and coaching leadership. Notably, despite the variation in management approaches at the hospital level, only small differences were identified when the management approaches used by the nurse managers in different hospitals were compared. The differences between the overall management approach and the nurse managers' actions were most striking in hospitals B and C, which have been described as organisations that primarily focus on control-based management. In contrast, the nurse managers still emphasised the use of commitment-based management elements. This may be explained by the fact that most nurse managers have a nursing background. Some nurse managers continue to work part-time as a nurse on their own ward. These nurse managers must find a balance between their roles as a manager and a professional. A control-based approach is in contrast to the way professionals typically interact, which is more based on autonomy and trust. A feeling that many nurse managers have is *"I don't want to be a police officer. If that's my job, then the role of line manager doesn't suit me"* (nurse manager, hospital B). Thus, even if the hospital primarily focuses on control-based management, nurse managers still strongly rely on commitment-based management.

Our results also indicate variation in management approaches based on differences between the departments within a hospital. More specifically, differences were observed between intensive care units (ICUs) and general care units. An ICU is a high-risk environment, and care delivery requires employees to have specialised medical and technical knowledge. Because of this specialised knowledge, employees with expert-knowledge on specific care processes (e.g., ventilation or circulation practitioners) or safety topics are frequently used to create a deeper awareness of safety risks, monitor safety behaviour and coach their co-workers. Moreover, care delivery in an ICU strongly relies on close, multidisciplinary teamwork; which is in contrast to general care units, where nurses treat a larger number of patients and medical specialists are only infrequently on the ward.

Therefore, ICU-supervisors also tend to rely more on professional control because in closer collaborations, the behaviours of colleagues can be monitored more easily. Thus, as a result of the circumstances in an ICU, supervisors tend to rely more on employee professionalism and focus more on the elements of commitment-based management when managing patient safety.

Variation also exists based on job categories: managing medical specialists requires a different safety management approach compared with nurses or other healthcare professionals. Within hospitals, medical specialists are in a unique position because they have considerable professional autonomy, they are hard to control because of their specialist-knowledge, and, moreover, many of them work in independent partnerships rather than being employed in a hospital; thus, there is a lack of a hierarchical working relationship. Consequently, the use of elements of control-based management is problematic because these elements are primarily based on the ability to enforce safety behaviour through hierarchical control. As one of the respondents explained: *"In a normal organisation, you can say rather top-down "watch out guys we agreed on registering pain-scores every shift!". But for the medical staff, that isn't going to work or it is counterproductive. So, there you make greater use of seducing and arguing, and you need other strategies"* (member of the board of directors, hospital D). Hence, the management of medical specialists depends more on elements of commitment-based safety management. First, respondents in all hospitals ascribe a key role to the medical advisory board of the hospital and leading medical specialists because they are considered credible messengers who are able to draw attention to safety matters and explain safety interventions to their colleagues. Role modelling behaviours of leading medical specialists may also convince colleagues to act the same. Consistent with this concept, medical specialists are involved in several safety initiatives and assigned roles as project leaders in safety interventions. Additionally, the demonstration of evidence regarding safety risks or the effectiveness of safety interventions is a powerful tool to manage medical specialists; as one of the respondents said: *"The numbers tell. That's the only thing that triggers real professionals."* (member of the board of directors, hospital B). Therefore, safety outcome measures such as the number of hospital acquired infections are frequently reported to medical specialists, and during safety and necrology meetings safety incidents and risks are discussed. In some hospitals, medical specialists are also actively involved in defining performance outcome measures to avoid discussions on the reliability of outcome measures. For example, this is the case in hospital E, which has been previously discussed. To this end, medical specialists can be managed without affecting their clinical autonomy.

Variation over time

The safety management approach adopted by a hospital or department also varies over time as a result of the change in urgency of safety issues and the priority given to other organisational matters.

In the previous decade, patient safety became a topic of interest in Dutch hospitals because of studies on the incidence and impact of safety incidents, the serious safety incidents that were widely reported in the media, and the introduction of a national patient safety program. Consequently, hospitals focused the spotlight on patient safety, and it became a priority for top-managers. Hospitals increasingly devoted attention to the topic in internal communications, and several awareness campaigns were initiated. However, *“Every medical specialist is convinced that he delivers good quality, and that he provides safe care”* (medical manager, hospital B). The focus on patient safety, brought this idea under pressure, and both hospital management and society demanded to impose stricter managerial control. Following the national safety program, external regulatory bodies imposed a wide range of safety regulations and checks regarding (non-) compliance, which were adopted by the hospitals. Thus, as a result of the national focus on patient safety, both control- and commitment-based management strategies were increasingly used to manage patient safety.

However, over time some hospitals faced circumstances that distracted their attention from patient safety management, such as internal conflicts, poor financial situations or a merger. In hospital C, for example, management was confronted with a poor financial situation, which required budget cuts and restructurings. As a consequence, the credibility of the message that was communicated concerning patient safety suffered. As one of the respondents described: *“You give [employees] conflicting signals if there are, on the one hand, budget cuts and, on the other hand, quality should be improved. That is a difficult message to communicate.”* (quality advisor, hospital C). In particular, these difficulties are related to the use of elements of a commitment-based management approach because manager commitment and communication concerning the priority attached to patient safety are key elements of this approach. There may not only be conflicting messages but a (temporary) change in priority also leads to a reduction of time available for patient safety. As a nurse manager (hospital D) illustrated: *“Time is primarily spent on managing financial affairs and issues like that [...] I noticed that I can insufficiently manage quality issues; that is more on an ad hoc basis”*. As a result of the limited amount of time for patient safety, managers and supervisors start to primarily rely on available mechanisms for control-based safety management. Thus, if hospitals face circumstances that distract their attention from patient safety, the focus of their management approach shifts towards control-based management.

Another situation that influences the safety management approach adopted by a hospital is when organisations experience a crisis situation, for example, following a serious

safety incident or an official reprimand of the Healthcare Inspectorate. Taking control of these situations requires hospitals to rapidly respond to ensure patient safety and exhibit decisiveness. Therefore, immediately after such an event, hospitals frequently use a top-down approach, which is characterised by tightening up the safety rules and procedures, closely monitoring employee compliance behaviours, and increasing feedback and sanction policies. To illustrate, the media confronted hospital E with poor hand hygiene compliance of its employees. In response, the hospital took several measures: *“We formulated hygiene policies”*, *“An e-learning in hand hygiene was developed”* and *“[We conducted] audits to check everyone’s adherence to dress code policies, for example, at the entrance of the staff restaurant”* (member of the medical advisory board, hospital E). After the crisis has been overcome, the focus credibly shifts towards commitment-based management to internalise the underlying principles, which consolidate the desired safety behaviours in the long-term to form a permanent basis to ensure patient safety. Thus, following a crisis situation, hospitals adopt a dynamic interplay of control- and commitment-based management, which varies based on the stage and handling of the crisis.

DISCUSSION AND CONCLUSION

This study aimed to explore whether the concepts of control- and commitment-based management are relevant for patient safety management in Dutch hospitals. Furthermore, we aimed to explore the differences in the safety management approaches between and within hospitals, as well as the reasons that underlie the variations.

Our results demonstrate that both management approaches are indeed relevant for patient safety management, but that most hospitals combine elements of control- and commitment-based safety management. All hospitals in this study utilise a foundation of control-based management to manage patient safety and, on top of that, use elements of commitment-based management. It appears that hospitals consider control- and commitment-based management to be complementary rather than mutually exclusive. There is, however, considerable variation between hospitals: some hospitals almost exclusively focus on control-based management, whereas other hospitals adopt more elements of a commitment-based approach. Once hospitals focus on commitment-based management, they do not completely abandon control; however, the balance may shift from managerial towards professional control. Apart from the variations between the hospitals, the results also indicate differences in the management approach adopted within the hospitals and over time. The differences within the hospitals are related to differences in the departments, management positions and job categories. Compared with general care units, managers in ICUs focus more on commitment-based management. In these high-risk departments, various mechanisms of professional control are in place, which may

explain why management does not exhibit a strong need to control. Lower-level managers also tend to focus more on commitment- rather than control-based management. The vast majority of the nurse managers have a professional background in nursing, and some nurse managers continue to work part-time as a nurse. Therefore, they must balance their roles as managers and professionals. The way professionals typically interact is not consistent with a control-based approach, which may explain why commitment-based management is favoured. Additionally, variations are also present for different job categories: management of medical specialists is more dependent on a commitment-based approach than management of other healthcare employees. Specialists' non-hierarchical working relationship with the hospital and their clinical autonomy cause difficulties in applying mechanisms of control-based management. Therefore, hospitals focus more on commitment-based elements such as creating awareness of safety risks and role modelling behaviours, which are sources of managing medical specialists without affecting their autonomy. Variation over time is reflected in situations where hospitals face crisis situations or circumstances that distract their attention from patient safety. In crisis situations, hospitals tend to rely more on control-based management to rapidly respond, ensure patient safety and to exhibit decisiveness. Furthermore, circumstances that distract a hospital's attention from patient safety, such as internal conflicts, poor financial situations or a merger, shift its focus also to control-based management. However, in this case, the shift towards control-based management is explained by a reduction in time devoted to patient safety because the other circumstances are given priority.

These findings suggest that relationships between professionals and managers have changed in healthcare. Professionals perform *"knowledge-based work that is inaccessible to those lacking the required training and experience"* (Plochg, Klazinga, & Starfield, 2009, p. 2); thus, the relationship between professionals and managers used to be characterised more by *trust* than *control* (Freidson, 2001; Van Herk, Klazinga, Schepers, & Casparie, 2001). Trust in the self-management abilities of individual professionals versus trust in the profession (as an institution) to control their members. This trust is the foundation of professional autonomy (Freidson, 2001). However, two factors appear to have changed. First, because of the introduction of evidence-based medical standards (guidelines and protocols) by professions, the knowledge domain of health professionals has become more accessible for outside control (Van Herk et al., 2001). Second, trust appears to have eroded in regard to safety issues. The publication of reports, such as *To err is human* (Kohn et al., 2000), has shown how easy individual healthcare professionals can make mistakes in the complex, dynamic, multidisciplinary healthcare setting, despite the available internal control mechanisms of the professions. This issue has spurred media attention and the interest of external agencies. It appears that hospital management has therefore decided to step in and take more control of safety issues. Although there are differences in the level of control, in each of our hospitals control-based management is

now the foundation for safety management. Even hospitals that exhibit less management control have not returned to the 'old' relationships of 'trust'. Safety is not trusted via individual self-management of professionals; it is expected to be anchored in the collective structure and culture of the organisation. There is also no 'blind' trust in the profession (as an institution) to control their members. Management control is only loosened if professionals have visible mechanisms in place to control each other.

A generally accepted thought in HRM literature (e.g., Arthur, 1994; Walton, 1985) is that organisations primarily rely on either control- or commitment-based management. However, it appears that hospitals consider control- and commitment-based management to be complementary rather than mutually exclusive in regard to patient safety management. This idea is consistent with the approach promoted by safety experts. In regard to safety, hospitals have learned lessons from so-called high-risk and high-reliability organisations, such as military and civil aviation and nuclear power-generation plants (Weick, Sutcliffe, & Obstfeld, 2008). In high-risk organisations, operational processes are generally established in rules and procedures, and compliance is enforced by threats of disciplinary measures (Gaba, 2000). Additionally, high-risk organisations focus on designing systems that are capable of the prevention of errors (Karsh, Holden, Alper, & Or, 2006). To this end, these organisations standardise work processes and create conditions that reduce errors and increase reliability. However, healthcare organisations have come to realise that they have characteristics that hinder strict adherence to safety rules and procedures, as they face high levels of complexity, uncertainty and variation in medical situations (Katz-Navon et al., 2007). This dynamic environment requires organisations to manage fluctuations and identify different ways to attain reliability (Weick et al., 2008). That is why the so-called high-reliability organisations (HROs), such as aircraft carriers and nuclear power-generation plants, have become examples for hospitals in regard to safety. These organisations combine attention for system design and procedures with reliance on employees' abilities to handle safety risks (Weick et al., 2008). HROs are characterised by an ongoing focus on safety risks, situational awareness and the capacity to cope with unanticipated failures (Weick et al., 2008). These features require organisations to shift towards a commitment-based management approach and to create awareness and demonstrate the priority attached to patient safety. Thus, whereas the HRM literature describes control- and commitment-based management as two extremes in a management spectrum, safety management favours the combination of both approaches to ensure patient safety. HROs are known as organisations that face high-risk environments, but are able to guarantee safety over a long period of time (Weick & Sutcliffe, 2001). Whether this is also the case for patient safety in hospital-settings remains unknown.

This study has some limitations that support the need for future research. First, this study exclusively focuses on hospitals that are located in the Netherlands. Therefore, the generalisability to other healthcare contexts or countries may be low. However, the

Netherlands can also be considered an interesting case because in contrast to the overall rather slow improvement in patient safety (Landrigan et al., 2010; Leape et al., 2009), a fifty percent reduction in the number of preventable deaths has been attained in the previous few years (Langelaan et al., 2013). Future research may examine which (combination of) management approach(es) contributes to the achievement of this result, and in general, what the effects of control- and commitment-based management are on patient safety. Second, only respondents in a managerial position or respondents with a leading role in safety management were interviewed, which did not consider the view of healthcare professionals. The focus on key-informants is consistent with the explorative nature of this study; however, in future research, it may also be interesting to include healthcare professionals' opinions because Wright & Nishii (2006) demonstrated that the managers' perceptions concerning the 'actual' management practices that have been implemented may differ considerably from the employees' perceptions and subsequent interpretations of the adopted management approach.

In conclusion, both control- and commitment-based management are relevant for patient safety management in hospitals. Whereas the HRM literature describes that organisations focus either on control- or commitment-based management, our results demonstrate that hospitals use a combination of both management approaches. Some hospitals focus more on control-based management, whereas other hospitals emphasise elements of commitment-based management. Once hospitals emphasise commitment-based management, they do not completely abandon control; however, the balance shifts from managerial towards professional control. The results also identified that the combination of management approaches varies between and within hospitals (e.g., depending on differences in the departments, management positions or job categories), as well as over time (e.g., depending on crisis situations and circumstances that distract hospital's attention from patient safety). Thus, hospitals use a dynamic interplay of elements of both management approaches to manage patient safety.