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Qualitative Research in Accounting and Management

The interplay of managerial and non-managerial controls, institutional work, and the coordination of laterally dependent hospital activities

Journal:	*Qualitative Research in Accounting and Management*
Manuscript ID	QRAM-08-2017-0076
Manuscript Type:	Original Article
Keywords:	Managerial controls, Non-managerial controls, Hospitals, Coordination, Institutional work, Complex organisations

1. Introduction

Traditional perspectives of managerial control – premised on assumptions of stable environments, clear objectives and rational behaviour - are not always particularly helpful when exploring today's complex organisational settings (Nixon and Burns, 2005; Quattrone and Hopper, 2005; Busco *et al*., 2008; Malmi and Brown, 2008; van der Meer-Kooistra and Scapens, 2008; Otley and Soin, 2014; Carlsson-Wall *et al*., 2016; Otley, 2016).

This includes trying to understand and/or design control mechanisms in hospitals, where: (1) change, uncertainty and unpredictability abounds (Covaleski *et al*., 1993; Lapsley, 2001; Kurunmäki *et al*., 2003; Järvinen, 2016); (2) there are difficulties associating inputs to outputs in medical practices (Coombs, 1987; Jones and Dewing, 1997), and; (3) there is horizontal dependency across medical activities but paradoxically distinct managerial controls applied to hospital units (Bourn and Ezzamel, 1986; Abernethy, 1996; Hopwood, 1996; Håkansson and Lind, 2004; Ryan and Walsh, 2004; Busco et al., 2008).

Most hospitals comprise separately controlled clinics for particular medical specialities and support functions; however, hospital patients tend to be administered laterally through decisions which cross organisational boundaries (Nyland and Pettersen, 2004). Such complexity in a hospital's vertical-lateral relations can create ambiguity in the accountability relating to clinical activities (Abernethy and Stoelwinder, 1995), which not only makes it extremely difficult to design a hospital's managerial control systems, but can also generate tensions and coordination difficulties (Coombs, 1987; Jones and Dewing, 1997; Järvinen, 2016; Kraus *et al*., 2016).

Managerial controls are rules or policy-based mechanisms which managers intentionally use to influence employees (Abernethy and Chua, 1996; Carlsson Wall *et al*., 2011), aimed either at control over behaviour or control of outcomes. Examples of the former include: budgets, forecasts, performance measures, governance structures and compensation schemes; whereas the latter includes meetings, staff selection, recruitment, and training. Non-managerial controls however are *not* created by managers, but are the outflow over time of (e.g.) norms, values, trust and mutual commitments that become embedded amongst organisational groups and/or individuals through day-to-day interaction and dialogue (Vosselman and van der Meer-Kooistra, 2009).

Coordination is the means through which integration and overall unity of effort is continuously attained across different organisational entities, via *managing* tensions yet also preserving the possibility of localised adaptation and peculiarities (Busco *et al*., 2008, p.104). More general issues surrounding the adoption of traditional managerial controls in complex organisational settings has had some coverage in recent literature (e.g., Otley, 1994; Nixon and Burns, 2005; Caglio and Ditillo, 2008; van der Meer-Kooistra and Scapens, 2008). However, much of the recent case study-based attention has focused on lateral relationships and coordination *between* organisations in (e.g.) supplier and customer arrangements (Dekker, 2004; Cäker, 2008; Varoutsa and Scapens, 2015), outsourcing (van der Meer-Kooistra and Vosselman, 2000), 'joined-up' public services (Ryan and Walsh, 2004; Barretta and Busco, 2011), product development (Jorgensen and Messner, 2010; Carlsson-Wall and Kraus, 2015; Christner and Stromsten, 2015) and parent-subsidiary associations (Quattrone and Hopper, 2005; Busco *et al*., 2008), rather than concern for relationships *within* specific organisations.

More investigation is warranted of the changing nature of *intra*-organisational relationships and controls within today's more complex organisations (Quattrone and Hopper, 2005; Busco *et al*., 2008; van der Meer-Kooistra and Scapens, 2008; Kraus *et al*., 2016; Otley, 2016). Accordingly, this paper presents the results of our attempt to explore the interplay between managerial and non-managerial controls, and the importance of employee's agency, in handling coordination issues that threaten to dislocate day-to-day hospital activity (Kraus *et al*., 2016). More specifically, we explore two hospital departments, one of which is (literally) 'operationally' dependent on the other, but which are subject to different managerial controls. We investigate how both managerial and non-managerial control mechanisms coexist and develop over time (Hopwood, 1974; Abernethy and

Stoelwinder, 1995; Carlsson-Wall *et al*., 2011), but also how employees 'work' to *create* space for wriggling (Lawrence *et al*., 2009), thus *enabling* the coordination of day-to-day activities in a complex hospital setting (Busco *et al*., 2008).

In our case study, a large hospital in Norway, financial budgets were the senior managers' primary control mechanism for planning, implementing and evaluating hospital activity. Such budgets are disaggregated through clinics and down to department level, though associated with some ambiguity across the various levels (Bourn and Ezzamel, 1986), and further down the hierarchy tends to mean relatively more day-to-day focus on medical activity-related information. The management structure within hospitals can be complicated. More detail is provided in section 3ii (below) but, briefly, at the top of the hierarchy are executive directors (or 'administrators') who fundamentally monitor the adherence (or not) of clinics to the hospital budgets; these administrators tend to come from business-related career backgrounds. Next, are the clinical directors, who are formally responsible for their clinic's budget, but who are also usually qualified medical staff, with previous time spent working in patient-facing roles. Departmental managers are next down the hospital hierarchy; they are formally responsible for their department's budget, but they are also practising medics and tend to side more favourably and certainly more professionally with medical logics than with economic logics (Bourn and Ezzamel, 1986; Abernethy and Stoelwinder, 1995; Abernethy, 1996; Nyland and Pettersen, 2004; Ezzamel *et al*., 2012). Finally, we have the front-line doctors and nurses who treat patients on a day-to-day basis, and who have no *formal* accountability to hospital budgets.

The complexity in our case partly emanates from how different budgeting techniques are imposed across different hospital units. So, 'operational' units, those which can be more easily linked to specific patients, are budgeted on an activity basis. This essentially means that the higher their activity levels, the more funds they receive. Whereas, support units which are less easily identified as 'owning' patients, are budgeted on fixed amounts. These alternative budgeting practices underscored tension and perceived coordination problems amongst the clinical directors – i.e., the reason why we were invited to investigate. The executive, who were more or less disengaged from operational matters (Jones and Dewing, 1997; Broadbent *et al*., 2001; Llewellyn, 2001), had scarcely been exposed to any serious tension or coordination problems. But, around 2012 they became aware of growing tension during senior management meetings, as several clinical directors in the operational areas clamoured to be able to increase their activity but were unable to do so without the additional assistance of support units. The latter, on the other hand, could not increase their activity without going into budget deficit, and this was something which their director was unwilling to test.[1]

We elected to explore two laterally dependent departments, orthopaedic surgery (OS) and anaesthesia (AN), not least because senior OS managers had been frustrated with service departments like AN. They had doubts over AN's claims at being unable to offer more of their services, thus enabling higher activity in OS; senior managers in OS were openly of the view that AN could 'do better' with its given budget. In the early stages of our investigation, we were influenced by our conversations with senior hospital managers, and fully expected to be exploring tension and coordination problems filtering down the different hospital levels. However, in time, we unravelled that the perceptions at senior management level did not reflect actual hospital activity from department level and below. Instead, we observed only minor and usually temporary coordination issues (and only marginal tension) at the OS-AN 'hands-on' interface. Moreover, our investigation revealed a buffering interplay between managerial and non-managerial controls, and intentional manoeuvring by the 'coordinators' (see below), which enabled OS to more or less achieve its activity targets and AN to avoid unacceptable budget deficits.

Once at this stage of our research, two main research questions came to the fore, namely: (1) how does a complex hospital's middle managers handle *possible* tensions and

[1] A possible option might have been for a transfer-pricing system to be created; however, such an idea was not supported by the hospital CEO.

coordination problems that can emerge when senior managers apply strict, vertically oriented managerial controls to laterally dependent activities, and; (2) how might patient-facing medical professionals 'work' (within the budgetary framework) to maintain sufficient cross-boundary coordination to ensure that patients continue to get the treatment they require?

The primary contributions of this paper are twofold. First, borrowing theoretical insights from the inter-organisational relationships literature (e.g., Busco *et al*., 2008; van der Meer-Kooistra and Scapens, 2008), we extend our understanding of the interplay between managerial and non-managerial controls *inside* a complex organisation, i.e., a study of *intra*-organisational relations and coordination. Moreover, we do this with a primary focus on the 'operational' level of the (hospital) case study, i.e., the patient-facing level. Contrary to numerous previous works in this area, we reveal no outright substitution of managerial controls by non-managerial controls (Dent, 1987), nor any strong evidence for decoupling (Covaleski *et al*., 1993; Kurunmäki *et al*., 2003); but instead, an ongoing and 'worked at' coexistence of multiple controls and opposing logics (Järvinen, 2016; Jarzabkowski *et al*., 2009). In addition, although we see an important role for non-managerial controls to assist the day-to-day coordination in our case study (Hopwood, 1974; Ouchi, 1979; Dent, 1987, 1991), they in fact *reinforce* rather than displace managerial controls (Busco *et al*., 2008). Second, we highlight that in order for coordination to occur across intra-organisational boundaries in complex organisational situations, it is seldom just controls *per se* which 'matter', but also the agency in (re)designing and using such controls (Lawrence *et al*., 2009). A key focus in our paper, therefore, is on how particular employees purposefully act to facilitate the coordination process. In so doing, we draw on the 'institutional work' theoretical perspective (Lawrence and Suddaby, 2006; Lawrence *et al*., 2009) which focuses on how individuals or groups act in institutionalised settings. Overall, our observations resonate with, and add to the growing knowledge on 'minimal structures' inside complex organisations (Busco *et al*., 2008; van der Meer-Kooistra and Scapens, 2008; Varoutsa and Scapens, 2016), according to which it could be framed that there is sufficient flexibility and wriggle room around organisational controls for employees to manage tensions and steer hospital activity towards maximum patient services at generally acceptable budget levels.

The remainder of the paper is structured as follows. Next, in Section 2, we present a review of the literature, highlighting some of the key characteristics of control mechanisms in contemporary complex organisations, but with particular attention afforded to the health sector. Section 3 gives details of our research design, namely: (1) our theoretical approach, which is a combination of (i) ideas borrowed from recent literature on inter-organisational relations, and (ii) an 'institutional work' perspective; and, (2) our qualitative research methods. Next, in Section 4, we first provide some general background to the case organisation; then we present our main empirical findings. In Section 5, through combining our theoretical tools with empirical observations, we further articulate the main contributions of our paper in relation to (1) our understanding of the interplay of managerial and non-managerial controls, and (2) the importance of agency and 'institutional work' to facilitate coordination and secure day-to-day patient-level achievement. Finally, in Section 6 we conclude our paper, including limitations of the study and a brief mention of future research opportunities.

2. Literature Review

As introduced already, there has been recent advance in our understanding of control mechanisms *across* different organisations (e.g., Busco *et* al., 2008; Caglio and Ditillo, 2008; van der Meer-Kooistra and Scapens, 2008). However, less knowledge exists around contemporary controls in complex *intra*-organisational settings (Busco *et al*., 2008; van der Meer-Kooistra and Scapens, 2008; Kraus *et al*., 2016). Such complex settings include hospitals, where activities emerge from a collaborative effort of multi-specialist teams who share the primary goal of patient care, but whose accountability structures are normally dispersed across separate vertical arrangements (Bourn and Ezzamel, 1986; Abernethy and

Stoelwinder, 1995; Albernethy, 1996; Nyland and Pettersen, 2004; Ryan and Walsh, 2004; Busco *et al*., 2008).

Hospitals have been said to be characterised by deep-rooted and 'contesting' professional values and goals-incongruence between 'economic logics' and 'medical logics' (Bourn and Ezzamel, 1986; Coombs, 1987; Abernethy and Stoelwinder, 1995; Abernethy, 1996; Nyland and Pettersen, 2004; Jacobs, 2005; Samuel *et al*., 2005; Järvinen, 2016; Kraus *et al*., 2016). One explanation is that medical staff represent the 'dominant professionals' and their 'primary loyalty belongs to their profession rather than to their employing organisations' (Abernethy, 1996, p. 143; see also Jones and Dewing, 1997). An obvious issue in the control process is thus a potential for tension between managerial (i.e., economic) goals and the professional (i.e., medical-grounded) values amongst doctors and nurses, plus the sufficiency (or not) of reforms that have been aimed at by-passing such tensions (Perrin, 1981; Bourn and Ezzamel, 1986; Coombs, 1987). However, even today, and as Kraus *et al*. (2016) commented: "We still know little about how such tensions are handled in different specific social and organisational contexts […] tensions between economic reasoning and professional ideals […] are more complex than has been suggested by previous research" (p.16).

In many developed countries, including Norway where our case study is located, recent decades have witnessed several rounds of reform in hospitals (Preston, 1992; Jones and Dewing, 1997; Lapsley, 2001, 2009; Nyland and Pettersen, 2004), which aims to increase cost efficiency, improve value for public funds, and render managers more accountable for hospital performance (Covaleski and Dirsmith, 1983; Bates and Brignall, 1993; Kurunmäki, 1999, 2004; Järvinen, 2016). Importantly, an overarching feature of these reforms has been the increased formalisation of vertically oriented managerial controls (e.g., budgets) which, in turn, usually comes with increased financial accountability, cost management techniques and hierarchical organisation in hospital units (Bourn and Ezzamel, 1986; Jones and Dewing, 1997; Järvinen, 2016).

As vertically oriented managerial controls proliferate across the global hospital sector, it is not unreasonable to question the extent to which such developments might hamper horizontal coordination across dependent units (Kraus and Lindholm, 2010; Kraus *et al*., 2016). This is indeed the perceived situation that we initially faced in our case study, whereby one hospital department (OS) was dependent on the other (AN) for its activities, but they were respectively subject to different budgeting controls. This constitutes a second potential cause of tension in the organisational control process which, in turn, can result in coordination problems, namely an incongruence between vertical and lateral relations (Busco *et al*., 2008). Thus, on the one hand we might think in terms of managerial controls being exercised by senior managers as the primary integrating mechanisms within hospitals. But, on the other hand, it has also been claimed that hierarchical accountability structures could obstruct intra-organisational coordination, and decrease flexibility in lateral relations (Ryan and Walsh, 2004; Busco *et al*., 2008).

Tension surrounding the coexistence of vertical and lateral arrangements can present serious challenges to a hospital, since the latter's value creation occurs in the composition of medical services across units (Abernethy, 1996). Thus, the need for lateral coordination in hospitals is paramount; yet paradoxically the popular mode of organisation is by means of hierarchical, vertically oriented control systems (Bourn and Ezzamel, 1986; Nyland and Pettersen, 2004).

Much of the literature on managerial controls in hospitals emphasises their effects on decision-making in localised settings such as clinics or departments (Bourn and Ezzamel, 1986; Coombs, 1987; Preston *et al*., 1992; Abernethy, 1996; Jones and Dewing, 1997; Jacobs, 1998; Lapsley, 2001; Llewellyn, 2001; Kurunmäki et al., 2003; Kurunmäki, 2004; Nyland and Pettersen, 2004). Several studies highlight 'tight coupling' between the managerial controls and operational activity (e.g., Abernethy and Stoelwinder, 1995; Jacobs, 1998; Kurunmäki *et al*., 2003; Kurunmäki, 2004; Lehtonen, 2007), including how an increase in the use of managerial controls can hamper lateral collaboration between related units (Busco *et al*., 2008; Kraus *et al*., 2016).

Some of the extant literature also stresses the importance of non-managerial controls (e.g., norms, values, trust) in complex organisational settings, although the evidence is quite mixed. For instance, while not actually focused on hospitals, seminal papers such as Ouchi (1979) and Dent (1987, 1991) articulated how coordination problems between operating units, created largely by managerial controls, were resolved through non-managerial control mechanisms (see also van der Meer-Kooistra and Vosselman, 2000; Busco *et al*., 2008). And, more specifically in relation to hospitals, several authors have explored a domination of 'clinical culture' over managerial coercion, where informal calculations are used to supplement shortfalls in formal control systems (Jones and Dewing, 1997). However, there has also been research which suggests that non-managerial forms of control can not only hamper managerial controls, but could also have countervailing effects (e.g., Abernethy and Stoelwinder, 1995).

Previous literature is also fairly inconclusive about how different forms of management controls interact over time, in day-to-day hospital practice. Some studies claim that an increase in the use of managerial controls does not necessarily change behaviour at a hospital's patient-facing level, and that medical professionals can distance or 'decouple' their actual behaviour from the expectations of senior managers (e.g., March and Olsen, 1976; Meyer and Rowan, 1977; Covaleski *et al*., 1993; Abernethy, 1996; Jones and Dewing, 1997; Llewellyn, 1997, 2001; Jacobs, 1998, 2005; Broadbent *et al*., 2001; Lapsley, 2001; Modell, 2001; Kurunmäki *et al*., 2003; Nyland and Pettersen, 2004). Others have argued that hospitals are at least 'loosely coupled' organisations, where managerial controls such as budgets can be 'more or less' decoupled from day-to-day activity (Covaleski and Dirsmith, 1983; Nyland and Pettersen, 2004), thus preserving an overriding loyalty amongst the medics towards their profession and the patients rather than to the hospital employer (Abernethy, 1996).

As will be developed (below), our case study offers something to this important debate which has received relatively less attention in the past. That is, we present a case study in which there is not only a strong influence from non-managerial controls to moderate tensions and avoid potential coordination problems at the patient-facing level, but we also find that simultaneous 'coupling' remains towards the managerial controls (for earlier writings, see Bourn and Ezzamel, 1986; Coombs, 1987). Moreover, we argue that understanding the interplay of these various control mechanisms is more suitably delivered by giving attention to the purposeful actions of influential employees. Thus, our case study offers insight into how hospital employees 'work' to bypass potential coordination problems and moderate tensions that can result from the application of distinct managerial control mechanisms to a situation where there is strong lateral dependency between hospital units.

3. Research Design

3. i. Theoretical approach

Managerial and non-managerial controls

From the outset of our paper we have made an important distinction between (1) *managerial* controls and (2) *non-managerial* controls. As explained already, briefly, managerial controls are rules and policy-based mechanisms which managers intentionally create to influence employees (Abernethy and Chua, 1996; Carlsson Wall *et al*., 2011), a definition which is similar to others' research on 'formal management controls' (Simons, 1990) or 'administrative controls' (Hopwood, 1974). They can be premised in desired behaviour - i.e., behavioural controls, such as budgets, forecasts, performance measures, governance structures and compensation schemes. Or, they can be geared towards behavioural consequences - i.e., outcome controls, including such things as meetings, staff selection, recruitment, and training.

Non-managerial controls on the other hand are *not* created by managers, but are represented in the norms, values, trust and mutual commitments that become embedded amongst organisational groups and/or individuals through day-to-day interaction,

communication and dialogue (Abernethy and Stoelwinder, 1995; Abernethy, 1996; Vosselman and van der Meer-Kooistra, 2009; Carlsson Wall *et al*., 2011). This definition is similar to what others have referred to as 'social and personal controls' (Hopwood, 1974), 'corporate clan control' (Ouchi, 1979) and 'cultural control' (Malmi and Brown, 2008); and which are generally said to represent informal and more tacit guides to appropriate behaviour. Non-managerial controls can impact individuals; however, some effect can also be group-wide, particularly when there are strong professions involved, as is the situation for hospitals. That is, professional affiliation will influence behaviour in such ways that common norms and values develop amongst groups. An obvious example in hospitals would be doctors' shared values that are rooted in the Hippocratic Oath, education, training, and socialisation in their day-to-day surroundings.

In the literature, managerial and non-managerial controls are frequently lumped together as constituting different elements of 'management control'. However, we wish to emphasise the distinction, because it usefully highlights the aspects of intra-organisational control where managers might (or not) have a direct influence in creating, maintaining and/or disrupting organisational arrangements and processes (Lawrence and Suddaby, 2006). That said, we should also stress the interrelationships across these two broad categories of control. So, particularly for emphasising purposive agency in the control process, it is useful to build from such a distinction. However, we will maintain in our case analysis that there are not necessarily clear boundaries between one category and the other, and that it is important to acknowledge the interrelationships across multiple controls (Otley, 1980; Håkansson & Lind, 2004; Busco *et al*., 2008; Caglio and Ditillo, 2008; Malmi and Brown, 2008; Sandelin, 2008; van der Meer-Koistra and Scapens, 2008; Carlsson-Wall *et al*., 2011).

Managing tensions in complex organisations

As mentioned we found recent literature on inter-organisational relations (Busco *et al*., 2008; van der Meer-Kooistra, 2008) to be helpful for shaping our theoretical approach. Such literature also explores coordination issues (e.g., in relation to vertical-lateral relations) in organisations, plus the roles of control mechanisms for managing such issues, but is premised on investigations of *inter*-organisational relationships rather than the *intra*-organisational focus of this paper.

Nevertheless, while acknowledging differences in respective focus of analyses, we still found such extant research to be useful for our own theorisation. For instance, Busco et al. (2008) highlight that there are three main sources of tension in inter-organisational relationships, namely (1) vertical vs. lateral relations, (2) standardisation vs. differentiation of practices, and (3) centralisation vs. decentralisation of decision making. Such tensions, they argue, emerge when global organisations "seek to combine standardization and co-ordination with local responsiveness and flexibility" (p.103), and they are implicated in the nature of complex global organisations, so must be "managed through appropriate mechanisms" (p.104).

Our approach here draws particularly on Busco *et al*.'s (2008) ideas on tensions which unfold from vertical-lateral relations, though of course our focus is on such relations within a distinct organisation (i.e., hospital) rather than across organisations. Importantly, our hospital setting shares many of the characteristics of 'global organisations', as defined by Busco *et al*. (2008). They argue that global organisations "are characterised by substantial complexity and heterogeneity, due to the multiplicity of their environments, the internal diversity of the various affiliates, and the different backgrounds of the employees" (p.104). As a consequence of such complexity and heterogeneity, they add, coordination has always been a critical part of day-to-day practices, that "instead of treating them as paradoxes, which need to be resolved", must be *managed* through mechanisms which can integrate complex and heterogeneous elements (Busco *et al*., 2008, p.105).

Hospitals are not only subject to significant and variable external influences, but they can also have complicated governance structures, differential control mechanisms and financial incentives, and opposing (e.g., economic vs medical) logics which reflects the multiplicity of its employees' backgrounds and expertise. So, we can investigate how the

complexity associated with "contextual, intraorganisational and individual heterogeneity" (Busco *et al*., 2008, p.104) is handled in hospitals. We focus on how differences across intra-hospital entities such as departments, clinics and the executive management might be integrated, so that tensions could be marginalised and there is overall unity in effort. In addition, our approach stresses the need to explore the purposeful agency of hospital employees, to which we now turn in more detail.

Institutional Work

Another influence on our theoretical approach is the 'institutional work' perspective (Lawrence *et al*., 2009, 2011; Empson *et al*., 2013), which highlights "[…] purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence and Suddaby, 2006, p.215). Institutional work represents an attempt to bridge together previous structures-centric and action-centric institutional theories. That is, earlier institutional theories, rooted in sociology, emphasised the processes through which institutions affect organisational practices, in turn leading to isomorphism in activities (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Tolbert and Zucker, 1983). Such institutional theory gives minimal attention to agency, and has been criticised for treating organisational actors as 'cultural dopes' (Lawrence *et al*., 2009, p.1). A more recent strand of institutional research places greater emphasis on agency (or 'institutional entrepreneurship'), highlighting how key actors can influence the institutionalised arrangements within which they operate, even in highly structured settings (Greenwood and Suddaby, 2006). Whereas, 'institutional *work*' attempts to galvanise and extend these previous approaches, particularly to illuminate the dynamics of agency *in relation to* institutionalised settings, but in a way that neither views organisational agents as rule-following 'dopes' or 'superhuman entrepreneurs' (Lawrence *et al*., 2009). As will be discussed below, there are several key agents in our case study, but in particular the newly-established 'coordinators' whose moderating and advocacy work (Canning and O'Dwyer, 2016) is both empirically and theoretically insightful.

An institutional work approach is helpful for informing the analysis of our case study. Hospitals are very complex settings, where economic vs medical 'institutional logics' can compete in different decision-making situations (Bourn and Ezzamel, 1986); in other words, hospitals are settings where *multiple* logics will reproduce and frequently contest over time (Meyer and Rowan, 1977; Friedland and Alford, 1991; Kraatz and Block, 2008; Jarzabkowski et al., 2009; Järvinen, 2016). Institutional logics link institutions and actions (Thornton and Ocasio, 2008), providing belief systems which give the basis for practical action (Friedland and Alford, 1991). They are embedded in organisations "[…] and signify which issues are considered relevant, which goals to follow, which instruments to use, and which standards to mobilise to define success" (Canning and O'Dwyer, 2016, p.5). Logics can present resistance against work that is aimed at driving institutional change (Reay and Hinings, 2009), but can also be a source for change when there are competing logics (Lounsbury, 2007). Underpinning an economic logic in hospitals, and normally involving a predominance of financial measurement and targets, are managerial controls such as budgets (Lapsley, 2001, 2009). Medical logic, on the other hand, originates in doctors' and nurses' professional training and the Hippocratic Oath, and gets carried through time via professional norms and values (Bourn and Ezzamel, 1986; Abernethy, 1996; Nyland and Pettersen, 2004).

3. ii. Research methods

Given the aims of our investigation, and particularly our focus on different controls for facilitating coordination across two hospital departments, we paid attention to *both* vertical and horizontal controls. And, because we propose to go beyond purely descriptive accounts of the various controls, we opted for a case study approach (Yin, 1994), conducted in two stages, the first of which was completed by mid-2012.

As explained earlier, the first stage of our research was undertaken in response to a direct approach from within the hospital, to be more precise the Director of the orthopaedic clinic. Thus, our initial attention was mostly directed at the budgeting system and the coordination of hospital activities at the clinical level. Several of our interviews at this stage were held with senior managers - e.g., the hospital's CEO and CFO, and the Directors of three different clinics. This stage of the research particularly provided us with context to the senior managers' perception of coordination through the hospital. In addition, at this early stage of our research we also studied internal documentation to ascertain, amongst other things, the hospital's formal organisational structure.

However, once into our investigation, we decided that it would be appropriate to undertake supplementary interviews with employees at the patient-facing levels, in order to improve our chances of a more balanced and circumspect account of the case. This is where our observations and understanding began to get particularly interesting, as we explored the handling of various challenges faced at the departmental level and below.

Eleven interviews were conducted in the first phase of our research, followed by five detailed interviews a year later, with key decision-makers at the patient-facing level (see Table 1). Our total of sixteen interviewees is a relatively small number in relation to the size of the hospital. However, in relation to our focus, it is important to stress that we covered *every* hospital employee who held a formal role in direct relation to the coordination of activities between OS and AN. Every interview was conducted by two researchers, recorded and transcribed, and a summary of every transcription was then sent to the respective interviewees for comment and (dis)agreement. Interviews lasted between 45 and 120 minutes.

(**Table 1** about here)

Since our study was exploratory in nature, we asked our interviewees rather open-ended questions, encouraging them to reflect upon the variety of challenges in connection to the coordination of activities between OS and AN. Particular attention was given to the mechanisms and agency used to coordinate across the OS-AN interface, honing into real and potential tensions and consequences, and how such occurrences were handled. From the outset, we aimed to capture the different elements of coordination at various stages of the control process, so we divided our interview guide into three parts, namely: planning, implementation, and evaluation.

Finally, by drawing on our review of the relevant past literature, and using our theoretical frame as a means for identifying and making sense of key aspects (Humphrey and Scapens, 1996), we were then in a better position to better understand and conceptualise the complex interplay between managerial and non-managerial controls, plus key agency 'at work', for enabling lateral coordination between OS and AN.

4. Case Study

4. i. Background to the case hospital and context to our investigation

Our case study is one of the largest hospitals in Norway. It has almost 10,000 employees, an annual budget of 1 billion euros, 19 clinics located over seven buildings, and multiple departments within each clinic (see Figure 1). However, our primary focus was on coordinating between two laterally dependent but vertically distinct hospital departments. Thus, in relative terms, we were investigating a fairly small part of the hospital. That said, AN has a dependency role in many parts of the hospital; whatever, we judged that it would be a good starting point for studying coordination at the patient-facing level.

(**Figure 1** about here)

AN is part of a service clinic that comprises ten departments in total. It provides anaesthesia

services during surgeries and other medical investigations. Their largest customer is OS, which is part of the substantial medical clinic consisting of seven different orthopaedic departments (including surgical also). OS performs scheduled surgery in eight different operating theatres located at the 'Centre of Orthopaedics', which is in a building adjacent to the 'Emergency Centre', where AN is located.

As with all departments in the orthopaedic clinic, OS's financial model is driven by its scale of activity, so, the higher its surgery activity, the larger its budget. Such activity is measured by the number of DRG[2] points earned; and the national government's overall funding of hospitals is a function of DRG points. It thus makes sense to manage OS by means of a flexible budget. However, by contrast, AN undertake activities with patients who formally 'belong' to other departments (e.g. OS), so the DRG system is not suitable for measuring their activity. Therefore, AN is financed using a fixed budget, based primarily on prior year figures.

As explained, the situation of budget disparities is the root of tensions and perceived coordination problems at senior management level. Some clinical directors, including Director of the orthopaedic clinic, wished to maximise their activity, hence also maximise their budget allocation. But OS can only do this with additional assistance from essential services such as anaesthesia; and the senior managers representing services (e.g., AN) choose to stay as close as possible to their allocated budgets rather than face the wrath and consequences of budget deficits; this suggests that, amongst some senior level directors, economic logics were relatively more compelling. Executive hospital managers supported the notion of maximising quality care for all patients, and maximising clinical activity more generally; as Bourn and Ezzamel (1986, p.209) suggested in their study of the UK health sector, "in practice there is quite a high level of agreement about the operational objectives" in hospitals, and in health sectors more generally, particularly when viewing this in the long-run. However, they also stressed more strongly than most that, at least in the short-run, hospital budgets *must* be adhered to. In contrast to their colleagues below them, the executive managers were accountable to the Norwegian government for the hospital's financial performance, consequently there's was a relatively stronger economic logic.

At the senior management level, there was limited information which drilled down to, and across, departments; it was all rather aggregated. There was also limited sharing of information across clinics at the senior level, nor any serious attempt to understand each other's performance context, objectives, etc. This also underscored a relative lack of trust between the respective senior clinical managers who were subject to different budgeting methods. Senior managers in the orthopaedic clinic were particularly sceptical about AN's claims of not having the capacity to meet their demands of more surgery activity, believing that AN probably needed to better manage its fixed resources. The ambiguity and relationship tensions at higher levels of the hospital (cf. Bourn and Ezzamel, 1986) are expressed in the following:

> The anaesthesia department keep saying that they cannot increase their activity. This gets frustrating, and I think 'Ok, 'if' you can't do that, *prove it*!" (Chief Financial Controller, Orthopaedic Clinic (level 2) – emphasis in original interview)

> You know very little about what happens at the other centres and clinics. And, when you know little, *it's easy to think that you're being cheated*. (Director of Clinic, Orthopaedic Clinic (level 2) – emphasis added)

In contrast, the director of the services clinic emphasised how important it was for budgets to be met, and how difficult it could be to rigorously evaluate budget variances and continuously monitor the budget situation; he was evidently distressed over the challenges of marrying-up economic vs medical objectives within the hospital:

[2] DRG (Diagnosis Related Groups) is a system used worldwide for classifying and measuring clinical activity in hospitals. DRG points represent a norm for the use of resources associated with a selection of patients.

> We spend an endless amount of time to discuss and disagree the discrepancy, and the allocation of resources in relation to the amount of activity that we are expected to deliver (Director of the Services Clinic (level 2))

The primary task for executive hospital managers was to keep as close to budgeted financial targets as possible, a strategy rooted mostly in economic logic, and it became reasonably clear that there was a general belief amongst these senior administrators that the AN department could probably be 'more efficient' with their allocated budget:

> This is one word against the other, and [AN] is standing alone against the other clinics. At the same time, I am convinced that they have not done enough internally yet. But I cannot reveal anything and say "look here": one would think that they would take the initiative themselves to document what they have done. (Chief Financial Officer – Hospital (level 1))

The above discussion has further illuminated the context to our investigation, namely the tensions and perceived coordination problems at the hospital's senior management level. It conveys frustration and even distrust across lateral boundaries, the undercurrent of which is institutional pluralism (Meyer and Rowan, 1977; Friedland and Alford, 1991; Kraatz and Block, 2008; Jarzabkowski et al., 2009; Järvinen, 2016) and different budgeting practices that are applied respectively to OS and AN. The above also affirms a notion of lack of integration and understanding in relation to patient-facing activities at senior management level. The remainder of this section presents findings from our exploration of relations and coordination between OA and AN at the patient interface, highlighting the interplay of various managerial and non-managerial controls, as well as the important 'institutional work' for navigating such processes. Influenced by our aim to capture the different elements of coordination at various stages of the control process, and in line with how we structured our interviewees' questions guide, we present the following according to three core elements of the control process, namely: planning, implementation and evaluation.

4. ii. Case study findings

Planning process

AN's employees are organised into permanent teams which are designated to particular clinics. In addition, members of a 'flexi-team' can be mobilised across the various clinics at short notice, clearly contributing (operationally) towards a 'professional community' across hospital boundaries (Adler *et al*., 2008). The consequence of these arrangements for OS, more specifically, is that a small team of doctors and nurses is permanently located, or at least available quickly, on their premises.

OS operates eight surgery theatres, all of which are in use from 7.30am to 3.30pm (i.e., 8 hours in total), each day. Around the theatres, the doctors and nurses employed by AN work closely together on a day-to-day basis with the surgeons, nurses and technicians in OS. Importantly, to facilitate coordination of surgery theatres activity, AN and OS each appointed a 'coordinator'. These coordinators are closest to the activities connecting OS and AN, and they *assume* responsibility to manage them, but they are not formally accountable. The coordinators do not have any formal budgetary responsibilities either, although as is developed below, they informally accept such responsibilities in their day-to-day actions and decisions.

In respect of the allocation of anaesthesia services to (e.g., orthopaedic) surgery, a traditional challenge had been others' insufficient understanding of AN's framework. Locally, for many years, AN had allocated 1 doctor and 1.5 nurses to each surgery theatre during 'normal' hours. Essentially the latter meant that there was one nurse permanently available at each theatre, and an additional nurse available when needed (i.e., part of the 'flexi team' mentioned above), but covering two theatres. These norms were established by AN, although they were also assessed for reasonableness by external peers. Shortly before our research began, the respective OS and AN department managers initiated joint meetings to

promote a dialogue around how the hospital might better optimise its use of AN's resources. According to AN's department manager, this kick-started additional horizontal communication and the beginnings of new coordination arrangements which were premised in the sharing of knowledge, resources and ideas (Dent, 1987). An understanding of AN's work grew, knowledge was increasingly shared, and a common organisational language was emerging. Moreover, several operating departments (including OS) began to purchase additional AN services when needed, using the latter's capacity norms (i.e., 1 doctor and 1.5 nurse – hereafter 'the 1 + 1.5 rule') as a guide for calculating the price paid:

> It is now accepted that activity cannot be increased without involving anaesthesia in the decision. Now, we just pass the ball back, and tell a clinic manager that if s/he wants to have an extra surgery theatre in the middle of the year, we *will* manage to organise it if s/he will pay what it costs (Department Manager – AN (level 3))

This new '1 + 1.5 rule', a clear illustration of controls-adaptability at localised levels (Busco *et al*., 2008), was intentionally mobilised by the coordinators to manage potential lateral tensions. It was enacted on two occasions during our research period. One occasion was keeping the operating theatres 'open' over summer, a period that is usually scheduled for low activity (hence, also low staffing levels). The other occasion was when normal daily hours were extended over a few weeks, with the aim of reducing waiting lists for a particular patient group. In both projects, OS basically paid the salary costs to cover additional AN input beyond their budgeted hours. Fundamentally, these new controls emerged from the department (more specifically, the coordinators') level, rather than from senior managerial directives. In fact, we were informed that the '1 + 1.5 rule' had not even been made known beyond department level.

Another instance of new coordination arrangements in the planning process, again driven by the coordinators' proactivity, was the undertaking of an 'Orthopaedics Plan'. This was a detailed plan for all activity within the operating theatres, put together biannually, and constituted as a formal responsibility for OS. Importantly, not long before our research began, AN's coordinator started to get involved in putting this plan together. Such new collaboration improved overall understanding of operating theatre logistics; for instance, new data started to be inputted into the operational plan such as: the time estimated for an AN nurse to administer a particular anaesthetic procedure, the time needed by a surgical nurse to wash an operating area, the time required by a surgeon to perform an operation, and/or the normal length of time for a patient to wake up after different surgeries. This sharing of new knowledge and joint analysis not only improved the basis for operational planning, via the use of agreed norms for resource utilisation, but also contributed towards a nurturing of more willingness to cooperate across hospital boundaries:

> More and more we have to work together, because we have been facing major challenges. And, as a result, we have become more familiar with each other; that obviously means more cooperation (Department Manager – AN (level 3))

Implementation process

Orthopaedic surgery theatres are planned to be worked at full capacity, but surgery can frequently be delayed (e.g., as some operations run over), thus the surgery plan cannot be completed in the scheduled hours. In such instances, whether surgery is to be postponed or completed via overtime (or extra shifts) is a decision that is now made *jointly* (and with the authorisation to do so) by the coordinators of OS and AN. The general attitude amongst medical staff is that budgets should not create an obstacle for patients who are ready for surgery to receive their treatment, so it is seldom difficult to organise overtime when needed:

> It is the patient that is most important for everyone here; it is important that they are satisfied. Everybody knows that when a patient comes to get his or her surgery at the hospital, s/he has taken time off from work, organised babysitting, and so on. Therefore, *we need very good reasons to skip surgery just because the budget does not fit*. It's a very collective spirit in that respect; most people think of the patient, and we have performed almost 300 surgeries via overtime this year (Coordinator – AN

(level 4) – emphasis added).

A characteristic of the working environment around surgery theatres is how well employees knew each other, as well as how to work together. In this regard, informal mechanisms were emphasised by several interviewees as being significant – including, as trivial as it may seem, out-of-work social gatherings involving staff from both OS and AN. One interviewee suggested that such social gatherings nurtured a *potential* for effective coordination across departments, because they promoted a better understanding of each other's worlds, plus clearer realisation of common aims in relation to patient wellbeing (Abernethy, 1996). This is similar to points raised in Busco et al. (2008), when discussing lateral relations: "As the relationship develops, the parties learn to work together and to accommodate […] risks. Over time, trust can develop and thereby reduce the need for formal control mechanisms" (p.105).

Several interviewees from both departments referred to "*us* in the surgery theatres", and AN's coordinator went so far as to suggest that staff involved with surgery theatre activity – including himself - were not necessarily or consciously engaged with their employer department:

> I think about it when I am in clinic meetings; however, on a daily basis we act as one department. We work together within the same surgery theatre, and we are together every day. This may sound like a cliché, but we are like a family (Coordinator – AN (level 4))

Another significant part of the OS-AN coordination process was that soon after their roles were created, the coordinators decided to share an office. Again, this arrangement was not initiated by managers; it was a new idea driven in unity by the coordinators. This local reorganisation benefitted theatre-level activity through (e.g.) subsequently requiring fewer formal meetings and replacing them with regular informal conversations and dialogue, plus more 'on the spot' problem-solving. The coordinators' shared office was located very close to the bulk of surgery theatres used by OS, bringing proximity and capacity to closely follow surgery theatre activities. Their new arrangement was acknowledged by both department managers as a positive move, e.g.:

> This new arrangement works pretty well. The previous coordinator [OS] was located in an office next to me. Then the two [coordinators from OS and AN] had the idea that sharing an office closer to the surgery theatres would be both enjoyable and convenient. And, in retrospect, I see that this was a smart move (Department Manager – OS (level 3))

Another signal of sharing responsibilities and the development of more collaborative spirit in the surgery community (Adler *et al*., 2008) was in how both coordinators increasingly expressed their loyalty to each other's department. For example, AN's coordinator expressed concerns over the impact on OS's earnings when there were delays in the surgery program. This suggests an emergence of joined-up thinking amongst the coordinators, where responsibilities had transcended traditional boundaries and new concerns were emerging that focused on the informal *sharing* of responsibilities in a manner that is congruent to optimising patient care. For example, consider the following where AN's coordinator clearly argues that it made no sense to cancel any surgery when overtime in AN could easily solve the issue for both patient *and* (OS) budget:

> On average, OS earns 35,000 NOK [about 4,500 euros] per patient, although it can vary of course. If we remove a patient from the schedule, then we lose this money and save one hour of overtime. *I do not think that makes good business*. (Coordinator – AN (level 4), emphasis added)

Both OS and AN coordinators were qualified nurses, and this common professional background, along with the professionally-oriented values and norms which come with being a trained and experienced nurse, reinforced their willingness to coordinate together as much

as possible. Moreover, it would seem that both coordinators personally retained their core nursing values. For instance, although they were not contractually obliged to undertake any clinical duties in their new 'coordinator' roles, they sometimes *did* undertake work in the surgery theatre. This not only refreshed their professional identity and know-how, but also continuously and fundamentally improved their understanding of how different colleagues worked together in the surgery theatres:

> It is important to be able to feel in your bones how people are, and to take part as the surgery occurs. It is important not to lose touch entirely (Coordinator – OS (level 4))

Evaluation process

Most evaluation at the 'operational' level (i.e., surgery theatres) was informal, and was underpinned to a large extent by trust, mutual commitment and close lateral relationship. The surgery theatre environment was considerably open and transparent. Colleagues from different departments knew each other well, often for many years, not just from their activities together in the surgery theatre, but also through involvement in hospital projects which crossed department boundaries and via informal channels (e.g., social gatherings).

Although AN's department manager had formal control over her department, she trusted the coordinator to make appropriate decisions, arguing that she had the necessary skills, experience and proximity to theatre activity. Furthermore, the AN coordinator was given authorisation for allocating overtime and/or extra shifts, but without being made formally accountable to the budget for such additional costs. Interestingly, however, both coordinators would *assume* collegial responsibility towards the department budgets:

> The coordinators deal with the pressures. They are informed about the budget situation; I have meetings with them at least every other week, where we review the financial situation. So, their financial awareness is significant, and we also talk about austerity. But we do *not* have to formalise everything, or include the clinical managers in all situations, the coordinators *fix* almost everything on their own (Department Manager – AN (level 3) – emphasis in interview)

Coordinators embraced their pseudo-responsibility towards department budgets, though as discussed already day-to-day theatre activity was never really driven by budgets per se. They would continuously seek to bypass any (potential) budget-related constraints, driven by an overriding goal to optimise patient care. So, for example, when additional AN services were needed by the OS department, for whatever reason, rather than hiring new staff, they would initially consider reallocation of existing resources across the eight surgery theatres. Such proactivity and continuous problem-solving was made all the more easier by the shared office location of the coordinators and their closeness to the theatres. The proximity facilitated valuable exchange of information amongst the staff from different departments, and also the coordinators were better positioned to monitor *actual* activity and intervene if necessary. The continuous engagement of such localised arrangements also relied considerably upon the respective department managers' trust in their coordinators, thereby shielding the latter, and the practising medical staff, from the full extent of managerial controls:

> My [departmental] manager has got to just trust that I am doing what I should do. And, […] he sees the result (Coordinator – OS (level 4))

Always at the operational level (i.e., from department managers downwards) it was the standard of patient care that mattered most, and which ultimately defined 'success' (or not):

> We face big challenges. But the good thing in all of this is that we are able to produce a service that achieves very high scores in terms of patient satisfaction. And, that is very positive; it feels good. Although we disagree and struggle a bit internally, we can still provide good services to our patients; and they are happy. We operate more than ever before. So, I really think that we have much to be proud of. (Coordinator – AN (level 4))

5. Discussion

This paper explores the interplay of managerial and non-managerial controls in two laterally-dependent but vertically distinct hospital departments. We have seen how a combination of both types of control mechanism, but also the coordinators' work, helped to sustain day-to-day patient-level activity, despite OS and AN having different budgetary controls and a general backdrop of institutional pluralism. Importantly, the interplay of various controls and the coordinators' agency fostered a process that was considerably more functional than that perceived by senior hospital managers. In this section, we draw on insights both from our theoretical frame and extant literature to further elaborate on our main contributions.

The reinforcing interplay of managerial and non-managerial controls

Our findings confirm the importance of non-managerial controls (e.g., norms, values, trust) for facilitating coordination across a complex organisation (Busco *et al*., 2008). Importantly, however, non-managerial controls were not used as a straight replacement for managerial controls nor were they introduced to 'defend' against coercive, managerial controls (cf. Jones and Dewing, 1997); in fact we observed strong inter-connectedness. Joint activity around surgical theatres demands strong interdependence between respective departments which, in turn, benefits from trust transcending the different units (van der Meer-Kooistra and Vosselman, 2000). As Cäker (2008) argued, trust can be particularly important for nurturing flexibility in relationships that are essentially characterised by strict administrative controls.

Drawing from recent research on inter-organisational relationships (Busco *et al*., 2008; Caglio and Ditillo, 2008; van der Meer-Kooistra and Scapens, 2008), our case study highlighted close links between managerial and non-managerial controls. For example, the coordinators sharing an office space on a daily basis, running through daily schedules together, cross-departmental social gatherings; and continuous informal dialogue based on 'theatre family' connections, ensured that OS and AN personnel closely interacted, thereby nurturing shared understandings of common patient-led objectives. These findings resonate with the inter-organisational study of Håkansson and Lind (2004), who concluded that frequent interaction between different groups can assist in the development of shared norms and values, thereby fostering coordination across organisational boundaries. They suggested that both informal and formal interaction, such as having joint activity plans (as occurred in our case study, led by the coordinators), can contribute towards the emergence of common goals and responsibilities. Similarly, in their investigation of inter-organisational relations between a global multinational corporate and its subsidiaries, Busco *et al*. (2008, p.105) highlighted a significance of "prominence to more subtle and informal control mechanisms, such as knowledge sharing and trust".

Such change dynamics continuously unfold, possibly increasing in embeddedness over time. This, in turn, creates a basis for good working relationships without necessarily needing any recourse to cross-functional borders (e.g., the references made to "us in the theatres"), and with a mutual understanding of each other's operating frameworks (e.g., the concerns of AN's coordinator over OS's earnings performance). Again, such frequent, ongoing interaction between parties can help to nurture shared norms and a community bond, extending a willingness and proactivity towards cooperation, and particularly with the establishment of joint problem solving venues (Håkansson and Lind, 2004).

Our findings confirmed that managerial controls are usually more prominent at higher levels of a hospital hierarchy, particularly in how senior managers focus on their budgets, and where scepticism can emerge towards respective entities' intent. We particularly saw the latter in how OS's senior managers questioned AN's work efficiency and effectiveness. Concurrently, there was also clearly a "relatively high consensus about the direction of broad goals at the operational level" (Bourn and Ezzamel, 1986, p.222). At first sight this may have indicated a 'decoupling' between senior managers' expectations and lateral activities (Jones and Dewing, 1997; Broadbent *et al*., 2001; Llewellyn, 2001; Nyland and Pettersen, 2004;

Jacobs, 2005; Rautiainen, 2010; Järvinen, 2016), whereby the ambiguity over (e.g.) cost-efficiency and other financial performance, resulting from imposed managerial controls, was only ever going to develop into even more ambiguity. And, thus, these managerial controls were possibly becoming "more ritualistic than rationalistic as a means of control" (Bourn and Ezzamel, 1986, p.222). However, closer examination of our case study revealed that managerial controls *did* still effect coordination at patient-facing levels in several ways. For instance, although having no formal responsibility for the department's budget, AN's coordinator was nevertheless delegated the authority (by her department manager) to approve overtime, extra shift working and/or hiring new staff. Moreover, when exercising such authority, she clearly considered budgetary matters as a constraint on her decisions (cf. reference to "good business").

Important facilitators of ongoing lateral coordination included the emergence (but not formalisation) of new localised controls across horizontal space, similar observations to findings in recent explorations of inter-organisational relations (Busco *et al*., 2008; Caglio and Ditillo, 2008; van der Meer-Kooistra and Scapens, 2008; Carlsson-Wall and Kraus, 2015). The mobilisation of new localised controls such as the '1 + 1.5 rule' for additional AN services, and a growth in mutual togetherness (e.g., the respective coordinators sharing an office, social gatherings, and more), created space to bypass potential coordination problems that could emerge from the different budgetary controls. So, our research presents a situation where budgets *still* provided a framework for coordination at both senior and middle-management levels, but the creation of new localised non-managerial controls created opportunities for joint activities. The budgeting information, supplemented by new innovations like the '1 + 1.5 rule' actually supported and enabled lateral relations between OS and AN, without any need for hierarchical ties (Busco *et al*., 2008, p.122). We might consider this as some form of 'coupling' (Bourn and Ezzamel, 1986, 1987; Coombs, 1987; Bates and Brignall, 1996), whereby the coordinators were effectively complying with the budget constraints. However, technically these were not 'managerial' controls; the coordinators were not formally accountable to their departments' budget, although in practice they took (or assumed) responsibility towards them.

Thus we were witnessing strong connections between managerial and non-managerial controls; in effect the budgeting situation was forcing a localised consensus to be formed – new boundaries and overlapping domains (Håkansson and Lind, 2004), plus a new 'organisational space' that bound together previously diverse entities (Quattrone and Hopper, 2005). These characteristics not only tempered the impact 'on the ground' of such controls but also helped to mitigate potential cross-departmental tension. We were also informed that some medical staff within the 'theatre family' had even requested their departmental manager(s) to push the senior hospital managers for allowing a more permanent and formalised system of internal trading (cf. the '1 + 1.5 rule' innovation) on the grounds that it would improve flexibility and potentially increase OS's activity levels. This further suggests that budgets *did* still exert an influence at the department and patient-facing levels, by impacting the way in which employees interacted and their use of decision space.

As a vertically oriented control mechanism, the budget certainly had potential to create strict boundaries within and between different hospital units. Based on our early discussions with senior hospital management, we rather expected the different financing structures in OS and AN to hamper coordination between them (Kraus *et al*., 2016; Nyland and Petersen, 2004). However, instead we observed how, mixed with a portfolio of new and/or bolstering non-managerial controls, and purposefully managed by the coordinators in particular, these budgets promoted a "sense of mutual dependence and informal interaction" (Busco *et al*., 2008, p. 121). Moreover, we witnessed how non-managerial controls *reinforced* the managerial controls, through moderating tensions and binding vertically distinct hospital units together in the same 'organisational space' (Busco *et al*., 2008). In several ways this also reminds us of Bourn and Ezzamel's (1986) seminal study of how 'corporate clan culture' helped medical professionals at the patient level to maintain their 'clinical freedom' (p. 203)

From a traditional managerial control perspective, it could be expected that the information flows in the hospital were mostly vertically oriented, and that any necessary mediation (or coercion) across sub-units would need to be imposed forcefully by senior management. Moreover, there would be less expectation of a willingness to exchange information laterally. This does not occur in our case; however, this is not because of decentralisation of formal power as such, but is due more to the space that is given to the coordinators by their department heads, to 'work' laterally and to embrace the 'whole relational context' (Busco *et al*., 2008, p.106). We can think in terms of there being more convergence towards budgetary objectives at the senior management level, but where decision-making at the lower levels allows for divergence and exhibits more flexibility through local adaptation (Coombs, 1987; Busco *et al*., 2008). The connection point is at department manager and coordinator level(s) involving new local quasi-managerial controls such as the '1 + 1.5 rule' and other non-managerial effects such as knowledge sharing, jointly-created knowledge, professional values, norms, trust and mutual commitments. In this respect, the ability of department managers to undertake virement in their budgets was also an important factor for having the capacity to mask real activities against the budgeted sums.

An important feature of our case study was in how patient-facing medical professionals continue to be shielded from direct and day-to-day exposure of budgetary matters, similar to Hirsch and Bermiss's (2009) notion of localised 'strategic decoupling', i.e., in our case study, that is, decoupling between the medical professionals and economic logics. There has long been a strong pressure for medics to become more financially astute in their work (Coombs, 1987; Abernethy and Stoelwinder, 1990; Abernethy, 1996; Kurunmäki, 1999, 2004; Llewellyn, 2001; Kurunmäki *et al*., 2003). However, our study reveals maintain*ing* of clinical freedom across the medical front-line. As with numerous hospital case studies before this one, there was evidence of accounting and accountability directly impacting the heads of clinics and department heads. But the work of respective coordinators in OS and AN (enabled also by the 'allowing' management style of the department heads) ensured that strong and direct forms of accountability travelled only so far down the hierarchy. This is important, not least because it represents a preservation of the co-existence of multiple logics in the hospital, without significant resistance and/or conflict, and the managing of possible tensions in a way that assured the provision of targeted hospital services.

Agency: middle managers as facilitators of coordination

Hospitals are professional-oriented organisations, where there is always potential for contestation between managerial objectives and the primary objectives of doctors and nurses (Bourn and Ezzamel, 1986; Nyland and Pettersen, 2004). Traditional views would purport that control can be 'forced' or 'administered' downwards in order to reduce the potential of resistance or contest, by ensuring that all employees perform in the interests of the organisation; namely that managerial controls would be the primary integrating mechanism in such superior-subordinate relationships (Busco *et al*., 2008). Middle managers are expected to communicate the signals and demands passed down by senior management, take responsibility for actual performance, and then communicate results back (i.e., upwards). Several studies have previously highlighted the important role of middle managers in hospitals as 'link-actors' between senior management and the medics, a situation which is also often described as the usual conduit for decoupling within the organisation (Llewellyn, 2001; Nyland and Pettersen, 2004) or mediation between the different worlds of clinical decisions and economic rationality (Nyland and Pettersen, 2004). In order to enact such responsibilities, some authors have highlighted the 'two way window' characteristics of middle managers (Llewellyn, 2001), speaking different languages and creating space for the continuation and coexistence of different logics (see also Abernethy, 1996; Kurunmäki, 1999; 2004; Nyland and Pettersen, 2004).

In our case study, we discovered that the middle manager (i.e., the department

manager) and the 'pseudo' middle manager (i.e., the coordinators[3]) have a critical role in terms of balancing a mixture of controls, and thereby facilitating OS-AN coordination. As explained already, control mechanisms from departmental level (and downwards) are predominantly lateral in practice. Although non-managerial controls can develop spontaneously (Dent, 1987), lateral relations usually need promotion and execution by change actors who also draw on new structures, negotiation, collaboration, etc. (Busco *et al*., 2008; Carlsson-Wall *et al*., 2016b).

Yet, such facilitation would not have seemed possible without the coordinators being permitted space to make decisions around the budgetary constraints. Our case study revealed a multiplicity of non-managerial controls which shielded day-to-day theatre practices from the full impact of top-down managerial controls. We have considered how the coordinators *created* cross-unit cooperation, on-the-spot decision-making, etc. Some of the outputs were intentionally designed (e.g., the '1 + 1.5 rule', and the decision to share an office), while others accumulated over time through repetition, trust-building, and relationship-strengthening. But they also *maintained* professional logics through their work (Lawrence and Suddaby, 2006; Trank and Washington, 2009), utilising their resource and capacity for manoeuvrability around the economic logics - e.g., in how they continuously re-scheduled medics across the various theatres as and when new and changing circumstances demanded. Coordinators were intelligent advocates of 'supportive interactive *work*' (Canning and O'Dwyer, 2016), meaning that they undertook actions which were mutually reinforcing – e.g., office-sharing reinforced joint on-the-spot localised decision-making. Without such purposeful work, it is highly likely that, faced with powerful economic logics, there would have been more cancelled surgery, longer waiting lists, and more cross-unit tension.

Pragmatism and 'creative navigation' (Lawrence and Suddaby, 2006) were key features in our case study, including some intentional loosening of the formal hierarchical structures within the hospital. For instance, we discussed how AN's department manager chose *not* to strictly monitor his coordinator's actions and incurred costs, and claimed to have never been overly concerned. He trusted his coordinator, as well as the latter's counterpart in OS for that matter, to have the necessary expertise to inform necessary and appropriate decisions. This trust was no more apparent than when the '1 + 1.5 rule' was established, a situation that AN's department manager accepted despite the fact that such practices were not formally approved by the hospital CEO. Such decisions were crucial for both disconnecting and not eradicating the coercive force of economic logics at patient-facing levels, *and* allowing the preservation of dominant medical logics. In this sense, like the coordinators, we can view the work of AN's head of department as comprising pluralist objectives, simultaneously creating, maintaining and/or disrupting intra-hospital institutions (Hirsch and Sekou Bermiss, 2009; Jarzabkowski *et al*., 2009). Hirsch and Sekou Bermiss (2009) referred to this creative balancing and navigation through the various influences as 'institutional dirty work', a phrase which seems to capture nicely how the coordinators continuously endeavour to maintain medical logics while at the same time not working in direct opposite direction to the economic logics.

The coordinators 'lived' the imposed criticalness of the hospital budgets, as an overarching framework for activity at the patient-facing level; and they purposefully designed and sought the necessary authority to nurture localised non-managerial controls that would assist in overcoming the potentially hindering budget dilemma between OS and AN. It was the coordinators who actually did the day-to-day manag*ing* and controll*ing* of hospital activities, not the senior managers. This resonates with Quattrone and Hopper's (2005) arguments about a-centred organisational forms[4], where multiple centres of control emerge,

[3] We have referred to coordinators as 'pseudo' middle managers because, although they do not boast anywhere near the same level of *formal* responsibility or accountability as department managers, we have described how they nevertheless become intertwined with, and *jointly* concerned over budgets.

[4] Quattrone and Hopper's (2005) work was focused on control forms between a multinational organisation and its subsidiaries.

coexist and change over time. Important for such arrangements is the distance (i.e., space and/or time) created between the centre and the peripheries. So, in our study, we can view both space and time distance as being influenced by how the coordinators (and, below them, the patient-facing professional medics) were shielded or 'strategically decoupled' (Hirsch and Sekou Bermiss, 2009) from the senior management. That is, although the coordinators assumed a key decision-making role in hospital activity, they were spared any direct contact with the senior management, and their immediate senior managers (i.e., the department managers) were relaxed and gave prominence to trust in their relationship.

Key features of the coordinators' work included close and continuous dialogue to understand and support each other's perspectives, mutual trust, shared aims, and commonly-accepted tools for making decisions that affected both departments. Their proactivity was crucial for buffering the tension that could occur from incongruent budgeting mechanisms. And thus, in practice, there was little day-to-day change for doctors and nurses at the patient-level.

AN's department manager served as a facilitator, allowing the coordinator to *manage* hospital activity, in the patients' interests. Our findings suggest that when activity levels are characterised by high dependence, complexity and continuous change, it is extremely difficult to design vertically oriented managerial controls that will accommodate every possible (and frequently unpredictable) challenge. Moreover, where senior managers do not possess the necessary operational knowledge, subordinates (i.e., middle managers) can be expected to control and coordinate activities on a lateral basis, but it is important that they have the decision space to do so. This resonates with conclusions in some of the extant literature on inter-organisational coordination (e.g., Busco *et al*., 2008; van der Meer-Kooistra and Scapens, 2008), which argue that a necessary feature of lateral organisation is striking a balance between strict managerial controls and flexibility, or 'minimal structures'. This, in turn, usually requires relatively more prominence being given to more subtle (i.e., non-managerial) control mechanisms, including trust and knowledge sharing.

Our case study revealed a myriad of institutional effects 'worked through' by the coordinators, highlighting the relationship between institutions and agency as: "[…] made up of muddles, misunderstandings, false starts and loose ends" (Lawrence *et al*., 2009, p.11). In our case study, the actors were not always successful; recall the AN coordinator's comments of "we disagree and struggle". There was also a strong thread of reflective purposefulness (Lawrence and Suddaby, 2006) in the coordinators' activities (Lawrence *et al*., 2009; Zietsma and Lawrence, 2010); that is, usually together, they would meet informally to continuously assess situations at the theatre-level, draw from their experiences, relate to current capabilities, and make new decisions. Their position in this sense – their wriggle room for manoeuvrability - was made all the more easier by the authority delegated to (and trust in) them by departmental managers (Battilana *et al*., 2009), social skills and informal networks (Perkmann and Spicer, 2008), and their expertise in medicine (Empson *et al*., 2013; see also Canning and O'Dwyer, 2016, p.3).

In carrying out their actions, the coordinators were influential in both *creating* new institutional focus at their level on economic (i.e., budgetary) considerations and *maintaining* medical logics that prioritised patient care (Jarzabkowski *et al*., 2009), though not in an empirically distinct way but rather as a "far more complex and messy reality" (Empson *et al*., 2013, p.814). For instance, in creating new economic-rooted logics, it was the coordinators who (with the departmental managers' approval) came up with the new '1 + 1.5 rule', and it was also their idea to start sharing an office, which allowed them to continuously make on-the-spot decisions in respect of the ongoing economic vs medical challenge (e.g., the decision made on "good business" grounds). Whereas we observed how medical logics remained intact as (e.g.) 'patient satisfaction scores' clearly still mattered significantly to them, and also in how the coordinators still volunteered to carry-out some hands-on theatre duties. Importantly, however, the coordinators also intentionally buffered other doctors and nurses from the direct effects of new budgeting procedures and increased financial logics. And, at the same time, the coordinators supported the doctors and nurses to continue to do what they wanted most - i.e., treating patients who are ready to be treated. In essence, an

important feature of what we witnessed in our case study was in how the coordinators purposefully created space for action, and sought 'mutual adjustment between logics' which, in turn, offered a coping mechanism over time (Lawrence *et al*., 2009, p.23).

In our case study, there was indeed some flexibility in the use of managerial controls at the activity level; yet, in the background at least, and manifest especially through the coordinators' work, these controls still exerted an overall economic framework for day-to-day decisions. Similar conclusions have been made in recent research that focuses on lateral arrangements in (e.g.) supplier-customer relations, new product development, and parent-subsidiary dynamics, where managerial controls have been described as more 'enabling' than is usually conveyed in past literature (Cäker, 2008; Jörgensen and Messner, 2010; Carlsson-Wall and Kraus, 2015; Christner and Strömsten, 2015; Moll, 2015; van der Meer-Kooistra and Scapens, 2015). This is a relatively new field of inquiry which not only questions the assumptions of static objectives and stable environments in traditional perspectives on control, but allows for flexible and dynamic frames while still maintaining some level of 'minimal structure', a 'firm but flexible' notion of managerial controls (Kamoche and Cunha, 2001; Davilla *et al*., 2009; Carlsson-Wall *et al*., 2016a; van der Meer-Kooistra and Scapens, 2008). Our case study demonstrates minimal structures in a complex hospital setting which are stable enough "to frame cognitive models, communication patterns and actions" (Davilla *et al*., 2009, p.327), but flexible enough to allow for adaptation and manoeuvrability when faced with uncertainty and unpredictability (Kamoche and Cunha, 2001; van der Meer-Kooistra and Scapens, 2008, 2015; Varoutsa and Scapens, 2015).

Our findings also conveyed distinct budgets which still had an 'in-the-background' effect at patient-level, although the degree of coerciveness from departmental-level and below was largely buffered by non-managerial controls (e.g., the '1 + 1.5 rule', joint decision-making based on coordinators; office sharing and proximity to the theatres, trust-building) and a growing knowledge and experience of each other's activities. In this sense, the longevity of joint activities and ongoing experiences amongst OS and AN employees ('the family'), the proximity and shared space and time of the respective coordinators, were important context for the working of 'minimal structures' in the hospital from departmental level down to the patient level (van der Meer-Kooistra and Scapens, 2008; Varoutsa and Scapens, 2015; Carlsson-Wall *et al*., 2016a).

Finally, our focus on the coordinators' role highlights a critical area for accounting researchers in the future. That is, we argue it is important to give attention to *agency* in our understanding of 'everyday accounting practice' (Englund *et al*., 2011). Recent times have particularly witnessed a surge of scholarly outputs that "places the calculation at the heart of the research" (Jollands and Quinn, 2017, p.168). Inspired especially by actor-network theory (Latour, 1986), such previous research "[…] has repositioned calculations to a central place in accounting research instead of being marginalized and subordinated to material, ideological, professional and political conditions or personal interpretations of accounting" (Justesen and Mouritsen, 2011, p. 161). Notwithstanding the significant contribution of recent ANT-inspired accounting literature, we would heed caution against moving too far the other way, not only marginalising the broader contexts in which accounting 'acts' but also potentially dumbing-down the importance of people who use, and are implicated in the use of, accounting technologies. The same line of 'friendly' argument might also be directed at the positivist-rooted managerial control literature such as the seminal works on 'levers of control' (Simons, 1995), which also focus primarily on controls *per se*, and rather marginalises any *relational* focus on the agency within managerial (and/or non-managerial) control processes.

6. Concluding Remarks

Many of today's organisations are so complex that traditional managerial control systems are incomplete and fall short of expectations and needs (Nixon and Burns, 2005; Busco *et al*., 2008; van der Meer Kooistra and Scapens, 2008; Kraus *et al*., 2016; Otley, 2016). We have combined our case study of two hospital departments' lateral dependency, but administrative autonomy, with theoretical insights borrowed from the inter-organisational relationships

literature and an institutional work theoretical perspective. In so doing, we have presented how influential actors purposefully *manage* possible tensions and cross-hospital coordination problems that can arise when distinct and vertically oriented managerial controls are imposed on horizontally linked hospital units. Our paper highlights the various actions and decisions, aligned with a milieu of non-managerial controls at play, which maintain (increase, even) a focus on the economics of hospital activities but also protects and preserves the values and beliefs that underpin medical logics.

Our research began from a request of senior managers in a large Norwegian hospital, to help them understand tensions and perceived coordination problems across intra-organisational boundaries (Busco *et al*., 2008; Kraus *et al*., 2016). These perceptions were principally rooted in the application of vertically oriented managerial control mechanisms to laterally dependent units (ibid.). However, deeper investigation revealed quite a different story; in particular, our research showed how the interplay of managerial and non-managerial controls, and the strategic 'work' of influential employees, created space for the overall achievement of targeted patient-level activities, *and* in a way that still maintained budgetary focus.

Our case exploration exposed overall hospital unity towards the achievement of quality patient care. However, continuously there was underlying contestation between economic and medical logics (Abernethy and Stoelwinder, 1995; Järvinen, 2016), although our impression and gut feeling was that most, if not all, professional medics appreciated that healthcare provision needed *some* financial control (Bourn and Ezzamel, 1986). Tensions were particularly apparent at the senior management level; however, down the hospital hierarchy, such tensions were managed by so-called 'coordinators'. This allowed local adaptation and peculiarities (e.g., the new '1 + 1.5 rule', office sharing) which, in turn, *reinforced* managerial economic objectives but also concurrently maintained a degree of clinical freedom (ibid.), and ensured that most patients got the treatment they required. In essence, the coordinators were managing tensions that could emerge from imposing different vertical controls on laterally dependent hospital units "in order to achieve the benefits of […] coordination and the advantages of local responsiveness" (Busco *et al*., 2008, p.122). It was purposeful behaviour "to manage the ongoing dialectic between the 'oppositional forces' involved in the process of integration" (ibid.), in an attempt to continuously optimise clinical achievements but with minimal budgetary deficits.

This paper responds to recent calls for further exploration of managerial control innovation in service sectors like health (Chenhall and Moers, 2015). In times of continuous change and widespread uncertainty, an increase in organisational complexity is a 'given' and, it can be argued, future innovations are required to allow for organisational adaptation, in particular: "[…] how innovations emerge from the dynamic, adaptive processes of organizations, often in unpredictable ways […] examine the mechanisms and processes by which novel products, services and processes are identified and developed within organizations" (ibid., p.10). We have shown how the 'work' of coordinators in our hospital case study was crucially important for the emergence of new innovations and change, but they were not 'super-heroes'. They were broad-minded, pragmatic, and forward thinking; and, they were prepared to look outside existing boundaries and embedded historical practices. Indeed, 'innovation' is not simply about new control tools or techniques, but their use and relational context. Importantly, the coordinators also had trusting relationships with their immediate senior colleagues (i.e., the department heads), who allowed them room for manoeuvring, even to change previously unquestioned organisational arrangements. At the same time, these coordinators intentionally did *not* abandon settled (i.e., formal) budgeting practices altogether; rather we saw how the hospital budgets remained intact and were adhered to, though with increased space and day-to-day flexibility surrounding them.

Finally, we have investigated the interplay of managerial and non-managerial controls in a contemporary and complex setting, but there are limits to the generalisation of our findings. First, our paper offers only a partial view of the processes within the OS-AN space to which we had access. Our findings would not generalise for all such laterally dependent spaces in the hospital, nor do our findings capture any generalisable patterns

across different hospitals. However, we hope to have raised additional awareness of how managerial and non-managerial controls interplay in today's complex organisations, where multiple logics exist (Järvinen, 2016; Jarzabkowski *et al*., 2009), in addition to highlighting the significance of key employees' institutional work for steering and mobilising the required coordination. We thus particularly recommend future research into the dynamics and interaction of managerial and non-managerial controls in other complex settings, plus focus on the purposeful work of influential agents. In so doing, we particularly hope that forthcoming research can also extend our modest contribution towards the institutional theorisation of organisational controll*ing* in its broad and relational sense, notably in complex organisational settings where strict managerial control regimes are unlikely to attain multiple objectives. Finally, we would also encourage tomorrow's researchers to explore how groups and/or influential actors engage in creating, maintaining and disrupting intra-organisational institutions; and thus foster coordination in complex settings which, in turn, might offer some buffering against the excessive and often unimaginative 'efficiency-seeking strategies' of many of today's organisations.

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Date		Level of the organisation
Stage 1		
21.03.2012	Chief Financial Officer (CFO) - Hospital	1
21.03.2012	Constituted Leader - Doctors (AN)	3
21.03.2012	Clinic Manager and Department Manager (OS)	2 & 3
22.03.2012	Chief Executive Officer (CEO) - Hospital	1
26.03.2012	Controller - Orthopaedic Clinic	2
26.03.2012	Department Manager - Doctors (AN)	3
30.03.2012	Medical Leader - Orthopaedic Clinic	3
11.04.2012	Controller - Anaesthesia Clinic	2
11.04.2012	Clinic Manager - Anaesthesia Clinic	2
17.04.2012	Department Manager - Nurses (OS)	3
17.04.2012	Department Manager Emergency Surgery Rooms	3
Stage 2		
12.12.2012	Department Manager - Emergency Surgery Rooms	3
18.12.2012	Department Manager - Nurses (AN)	3
20.12.2012	Coordinator - Nurses (AN)	4
02.01.2013	Department Manager - Nurses (OS)	3
02.01.2013	Coordinator - Nurses (OS)	4

Table 1. Schedule of interviews (Level of the organization indicates were in the organization the interviewee belongs. 1= Hospital top management level, 2= clinic level, 3= department level, 4= section level)

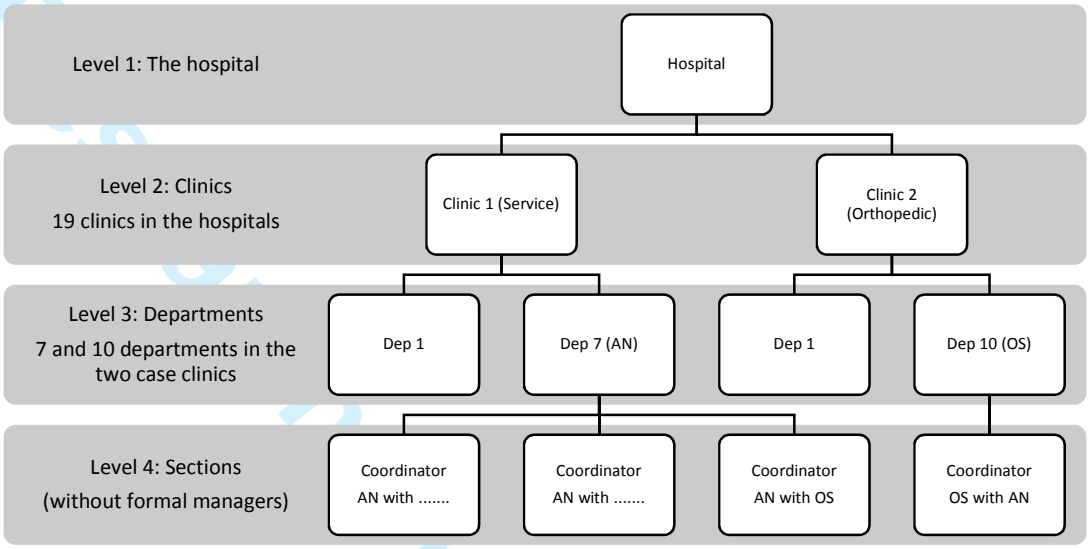

Figure 1. Organisational chart for the case hospital