Lean Healthcare: rhetoric, ritual and resistance

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Introduction

In the current global economic climate, governments around the world are looking for ways to contain public healthcare spending. Simultaneously, they need to assure levels of service and, in some cases, extend provision to marginalised groups. Policy-makers and service leaders are therefore attracted to management philosophies that, for other industries, offer more productive and cost-effective ways of organising and delivering services. One prominent example is the popular application of process re-engineering methodologies, such as Lean Thinking and Six Sigma (Radnor and Boaden, 2008). These are characterised as reducing waste and adding customer value through re-configuring organisational processes (Womack and James, 2003). Over the last decade there has been growing international interest in the idea of Lean Healthcare, exemplified by the work of bodies such as US Institute for Healthcare Improvement and the UK Institute for Innovation and Improvement.

The introduction of Lean healthcare resurfaces longstanding debates around the changing organisation of healthcare work. For over three decades scholars have examined the impact of reform on clinical practice. Managers and corporate rationalisers have been widely interpreted as ‘countervailing powers’, challenging the dominance of groups such as medicine (Alford, 1975; Harrison and Pollitt, 1995; Light, 1995). More broadly it is suggested the ‘logic’ of managerialism had come to replace the ‘logic’ of professionalism in the social organisation of healthcare (Kitchener, 2000). Contemporary healthcare reforms illustrate this trend in three areas. The first relates to the proliferation, and management co-option of, evidence-based guidelines and audit regimes, which highlight the standardisation, bureaucratisation and re-regulation of clinical practice (Allen, 2009; Harrison 2002; Timmermans and Berg, 2003). The second relates to the re-configuration of clinical work, especially professional boundaries, to deliver more patient-centred, evidence-based services, including new forms of clinical specialisation (Martin et al, 2009). The third, relates to the re-stratification of professional groups as clinical leaders are co-opted in managerial roles to direct the process of change (Coburn et al. 1997; Kitchener, 2000; Friedson, 1986). The combination of these transitions raises questions about the managerialisation of healthcare, the maintenance of jurisdictional boundaries, new forms of governance and emerging ‘hybrid’ identities (Llewellyn, 2001, McDonald et al, 2008; Sheaff et al. 2004; Waring and Currie, 2009)
Lean Healthcare contributes to these transitions. It exemplifies the attempt by service leaders to further rationalise and streamline clinical practices, calling directly for the re-configuration of established ways of working and fostering new forms of clinical leadership. Our paper investigates the implementation of Lean within the English National Health Service (NHS), specifically the hospital operating department, to understand how these activities interact with and impact upon established ways of working. It contributes to these wider debates, and offers a critical appraisal of Lean as the current fashion in healthcare reform. In developing our analysis, we also look to new ways for understanding the interplay between Lean and clinical practice and draw upon the 'technologies-in-practice' approach (Timmermans and Berg, 2003a). This considers how management technologies, such as Lean, interact with and are co-constructed in relation to other social actors and practices within in a given social-cultural context. Our work is therefore attentive to the way both Lean and clinical practice are constructed in relation to each other in a situated and ongoing process of organisational change.

**Lean Healthcare**

Process re-engineering methodologies, such as Lean and Six Sigma, have become international management phenomenon. Without engaging in a detailed social history, it is suffice to say that, despite their current popularity, such methodologies follow in a long history of systems management and quality improvement with their own distinct genealogies, such as scientific management and Total Quality Management (TQM) (Deming, 2000). With its origins in the Toyota Production Systems (TPS), ‘lean thinking’ has become particularly popular (Liker, 2004; Womack and Jones, 2003). Central to its philosophy is a concern with waste (*muda*) or processes that add no value to the product or customer. This waste is elaborated in seven areas, including transportation, inventory, motion, waiting, overproduction, over processing and defects. To reduce this waste, five principles of ‘lean thinking’ are proposed. The first is to specify the ‘value’ created by the operational process. This should not be dominated by provider interests, but instead should reflect what the customer will value. The second involves identifying ‘value streams’ or those processes that will ultimately add value to the product. This can be achieved through forms of problem-solving and change management, often through re-drawing activities that add value, whilst eliminating those that do not. The third involves creating ‘flow’ throughout these processes. This means breaking down the boundaries and divisions between organisational and occupational groups to ensure work streams are continually attuned to the creation of value. The fourth highlights the importance of demand or ‘pull’ through responding to the needs of customers, rather than suppliers.
And finally, it strives for ‘perfection’ or the idea that ‘lean thinking’ should be a continuous activity embedded within the culture of the organisation.

In practice, the application of ‘lean’, and similar methodologies, involves a range of approaches (Womack and Jones, 2003). It is widely suggested that ‘lean thinking’ relies upon effective leadership to shape and sustain the change process. Although attention is given to strong central leadership, equal consideration is given to distributed leadership through ‘champions’ and ‘educators’. Another re-occurring theme relates to the role of work teams and stakeholder both in the specification of value and the implementation of change. One of the most celebrated ideas, is ‘continuous improvement’ (kaizen), which emphasises the importance of continually reflecting upon and changing work processes in an effort to improve the workflow, reduce waste and add value. Popular variations include the Plan-Do-Check-Act (PDAC) cycle, as well as techniques such as process mapping, waste audits and other change strategies (Womack and Jones, 2003).

Over the last decade process re-engineering methodologies have been applied widely across the public and healthcare service (IHI, 2005; NHS Confederation, 2006; Proudlove et al. 2008; Radnor and Boaden, 2008; Young and McClean, 2008; Zidel, 2005). It is perhaps fair to say that, for the NHS at least, health policies have taken a rather eclectic approach, often blending Lean with other developments in quality assurance and workforce development, such as patient safety (NHS Confederation, 2006). Whilst clearly informed by the Lean philosophy, in practice this means Lean may take on a variety of guises, ranging from more localised examples of PDAC, to whole-system changes (Burgess et al. 2009). Such diversity may not necessarily be problematic, but it does suggests that in the translation to practice, Lean principles have often become entangled with other reforms and the competing voices of policy-makers, managers, clinical leaders and management consultants.

Arguably the most prominent example of Lean in the NHS is the Institute for Innovation and Improvement’s Productive Series. Of relevance to this paper, the Productive Theatre programme comprises a series of activities for enhancing the smooth, efficient and safe running of operating theatres. As well as supporting effective leadership capabilities, these involve an appraisal of existing procedures; the improved scheduling of theatre lists; and the re-ordering of routine activities, such as theatre preparation, safety checks, equipment planning and handover. One way of interpreting this ‘bundle’ of activities is that they aim to re-design clinical practices and resources around streamlined, efficient and value-adding care pathways. As well as encouraging service leaders to map departmental processes and identify areas of waste, it also promotes the application of various models to improve operational performance, such as 5S. Like Kaizen, this
involves the organisation of activities along five principles: ‘sort’ or organise the work area (seiri); ‘set’ or order the work area (seitou); ‘shine’ or ensure the cleanliness of the work area (seiso); ‘standardise’ to ensure tasks are routinely completed (seiketsu); and ‘sustain’ through fostering a disciplined culture towards improvement (shitsuke). This approach has found popular appeal in local service improvement, often in relation to the problems of hospital-acquired infections.

A growing body of research examines the implementation of Lean methodologies within healthcare, often showing the potential benefits of service re-configuration to patient care and resource utilisation (Jones and Filochowski, 2006; Fillingham, 2007; Joosten et al. 2009; Kim et al, 2005; Radnor and Boaden 2008; Zidel, 2007). However, research also suggests the implementation of Lean is not without its problems, with the process depending on factors such as organisational readiness, a culture of continuous improvement, effective leadership, the availability of resources and communication strategy (Radnor and Boaden, 2008). Moreover, it is show how in practice Lean involves considerable variability, with some services adopting a system-wide approach, whilst others tentatively adopt specific techniques from the Lean toolbox (Burgess et al. 2009).

This highlights how the wider socio-cultural and organisational context of healthcare can have a significant bearing on how Lean is translated from policy to practice. Reinforcing this view, Joosten et al (2008) suggest there is a lack of socio-technical research that moves us beyond evaluation and appraisal to a more critical and theoretical understand how of Lean interacts with pre-existing healthcare practices.

**Lean-ing on clinical practice**

In developing a socio-cultural perspective, analysis in other sectors points to some of the consequences of Lean outside of those conveyed in managerialist visions. Research has illustrated how its introduction can change social relations in the workplace as managers seek to remove demarcations between areas of production (Gerrahan and Stewart, 1992); it is often accompanied by an extension of surveillance and control as peers are encouraged to monitor each other’s work (Moody, 1997); and that productivity gains are often based on employee loses in terms of free time, task autonomy and job security (Graham, 1995)

Building upon these ideas, we suggest Lean raises numerous questions about the social organisation of healthcare. It can be argued, for instance, that whilst the philosophy of Lean might have appeal in many organisational settings, it may not be easily translated into healthcare. For example, how and who should specify the ‘value’ to be created in
healthcare (Young and McClean, 2008), and should talk of value (in a narrow sense of an individual patient’s experience) or values (in a wider sense of collective beliefs about healthcare)? Returning to our wider debates, Lean has the potential to transform institutionalised working practices and occupational boundaries. Professional groups, such as medicine and nursing, are characterised by their jurisdictional boundaries (Abbott, 1988) that are institutionalised through a range of socio-legal and regulatory pillars (Scott, 2008), whilst also being maintained in practice through negotiation and ‘boundary work’ (Geiryn, 1983). ‘Lean thinking’, however, encourages service leaders to re-think such departmental or occupational boundaries to promote ‘flow’ within ‘value streams’. This can be interpreted as a clear attempt to rationalise and re-configure established ways of working, with a move away from inter-professional demarcations towards more integrated value streams. See in this way Lean has the potential to redraw professional boundaries in the name of efficiency and productivity. Moreover, its implementation requires service leaders to systematically audit and appraise existing working practices in terms of their productivity and performance. Where service leaders are too far removed from clinical practice, and therefore unable to effectively or legitimately undertake this work, it is expected that local clinicians will be appointed, as ‘champions’ to fulfil these tasks. Lean healthcare further illustrates, therefore, the growing ‘top-down’ push for workforce re-configuration either through direct management involvement or through the co-option of clinicians into these managerial roles.

Lean can be interpreted therefore as a new ‘frontier’ in the managerialisation of healthcare. In considering the these changes there has been a tendency to either focus on the top-down restructuring of management, or alternatively the bottom-up agency of professionals to corrupt or capture change (Gleeson and Knights, 2006). Arguably, there has been little attention to the mediation of these processes in situated practice (Gleeson and Knights 2006; Waring and Currie, 2009). In short, how managerial and clinical practices are co-constructed as they interact with one another. In developing this analysis, we follow a ‘technology-in-practice’ approach (Timmermans and Berg, 2003b), where ‘technology’ is conceptualised in its broadest sense, including ‘technologies’ such as Lean. This counters more deterministic and reductionist works by seeing technologies as being developed and enacted within a complex network of actors and technologies (Law, 1992; Timmermans and Berg, 2003b). It highlights the relative historical and socio-cultural context in which technologies evolve and the ways different groups understand and experience technologies as it relates to their social practice. In this sense, technologies only have meaning through their interaction with practice; they have rich social genealogies that reflect the actions of other actors and technologies involved in their development and application. Accordingly, technology and practice are co-
constructed - technologies reshape practice at the same time that practice reshapes technology.

This perspective foregrounds the contingent ‘institutional work’ involved in designing, developing and delivering technological change such as Lean; including the potential for Lean and clinical practice to mutually recreate one another; and their combined capacity to redefine institutionalised ways of working. In other words it calls for a detailed, contextualised understanding of how management technologies and clinical practices interact and are mediated. This requires attention to the way Lean is translated and interpreted by different groups; the way it is implemented in relation to clinical practice as on-going social activities, and its capacity for technologies and practice to make and re-make each other. This in itself may have unanticipated but nonetheless significant and enduring consequences for the existing social practice.

The study

The paper is based on an ethnographic study of the implementation of ‘lean thinking’ within the hospital operating department. The research was initiated in 2009 in two NHS hospitals and continues to be developed in two further hospitals as new service re-configuration programmes are introduced. Across all research sites, service re-configuration projects were identified that were explicitly based on the philosophy of Lean and TPS. Our research found, however, variations in these projects encouraging us to be attentive to different ways Lean is translated into and impacts upon clinical practice. This paper focuses on the re-configuration of two surgical lists (vascular and arthroscopy) within one hospital setting.

The paper’s findings were collected over 12 months in one hospital operating department carried out between 2008-09. This included non-participant observations of clinical activities, including ward areas, operating theatres, recovery rooms, clinics and assessment rooms; and participant observations in other non-clinical settings, including management meetings, team briefings, and rest areas. Our observations focuses on a series of meetings to define and design departmental strategy for Lean; team briefings to introduce Lean to clinical groups; work shops and problem-based activities the mapped existing activities; and other activities where service changes were introduced. Our role within these processes ranged from being an external academic observer to becoming more involved in group discussions related to service change. During our observations we engaged staff in numerous informal conversations to clarify issues, and conducted 42 semi-structured one-to-one interviews with nurses, operating department
practitioners (ODPs), healthcare assistants, surgeons, anaesthetists and managers. The study received ethical approval through standard NHS procedures. In line with this, all clinical staff were notified in writing and through staff briefings of the study aims and methods in advance of conducting the research, observational activities required verbal consent from participants and interviews required written consent.

Our observations were recorded in individual field journals comprising “rich descriptions” of events, interactions and statements, together with personal reflections. The research team met weekly to reflect upon observations and identify emergent themes, whereby a common electronic record was compiled that catalogued interpretative codes, categories and themes with corresponding extracts of data. Interviews were transcribed and coded through close reading by the authors. This involved developing a common coding frame that related to our observational categories and themes. We draw upon this data to tell the unfolding story of Lean within this operating department. Clearly, there are limits to the detail of ethnographic analysis we can give; as such our paper moves between empirical settings, levels of analysis and conceptual categories to explore social practice in the context of this organisational change (Nicolini, 2009).

**Lean-in-clinical practice**

**Rhetoric**

Our first analytical theme foregrounds the role of rhetoric within organisational practice or the way language is used in an interactive space to persuade others (Farrell, 1999). Classical principles of rhetoric include the appeals to reason (logos), emotion (pathos) and values (ethos), but more broadly it is attentive to where, how and when arguments or ideas are articulated. The role of rhetoric in persuasion highlights its contribution to the negotiation of social order, the social construction of knowledge, and the dynamics of social power (Foucault, 1980). For example, scholars of epistemology highlight the rhetorical use of concepts such as ‘objectivity’ when scientists seek to legitimise their discoveries; yet, ultimately, such knowledge remains imbued with and shaped by the values and ideology of the given scientific or ‘epistemic community’ (Knorr-Cetina, 1983; Scott, 1999). In the context of our study, we were attentive to the way service leaders interpreted and articulated Lean, and in turn sought to persuade others as to its relevance to service improvement.

We focus on one meeting convened in the early stages of the study. This was convened in the staff lounge by the departmental manager, with the title “Productive Theatre”. This manager opened the meeting outlining the service re-configuration process to
departmental staff and representatives from linked hospital departments, such as surgery and sterile services. The meeting was primarily led, however, by a ‘corporate’ hospital manager with designated responsibility for ‘service improvement’. This person introduced themselves to staff by describing their medical background, but also their experience in service improvement, which included holding post-graduate qualifications in Operations Management and working as a management consultant. This demonstrated the manager’s attempt to justify and legitimise their role within the implementation of Lean and the expertise they could offer to the department.

The hospital management proceeded to describe the aim of the meeting as “exploring ways of creating value in departmental processes”. He asked participants “so why do we come to work... what are we here for” - the emphasis on ‘we’ denoting some collective endeavour. Despite a number of clinicians suggesting that it “paid the mortgage”, responses coalesced around the importance of patient care. The manager responded by writing ‘patient care’ at the head of a large flip chart and asked “so, what do patients value?” Before any suggestions could be made he asked: “do they value waiting in reception”, “do they value having their operation cancelled”, “do they value having tests repeated”, to which he answered “obviously no”. Through this exchange the manager appeared to articulate service ‘value’ and ‘patient care’ as antonymous with ‘waste’, or ‘delays’. Moreover, he apparently ‘discovered’ a moral consensus between the existing caring ethos of the staff and corporate values of volume, throughput and efficiency. Elaborating this, the hospital manager began to create a ‘diagnosis’ of the inefficiencies facing the operating department on which to justify the service re-configurations planned.

Following this ‘diagnosis’, the hospital manager started to describe ways they could initiate improvements, arguing the NHS could learn from organisations such as Toyota and Tesco:

“These companies have found ways to change how they work, they have reduced their waste, they have improved their safety. We can do the same. We need to work smartly” (Field notes)

The manager then explained the changes he had helped bring about in other hospital departments, again ‘talking-up’ his reputation. To explain the principles of Lean, he wrote on the flip chart the areas of waste associated with Lean (Womack and Jones, 2003), before asking the participants to give relevant examples from departmental processes. A variety of answers were given, including the use of the IT systems, excessive paperwork, moving patient between departments, and checking instrumentation. Through this dialogue the manager encouraged staff into ‘lean thinking’; endorsing suggestions that resonated with Lean and writing them on the flip chart. At
the same time downplaying observations that were not so easily tackled, such as staff moral, issues of blame or lack of resources.

‘That is a fantastic point. That is exactly what today is about, a chance for you to question things that haven’t been questioned, because you know best. Write that down, do we need to do swabs?’ (Field notes)

In the final section of the meeting the hospital manager explained some of the practical steps that could be taken. Again reference was made to industries that had successfully utilised process mapping to identify waste and 5S to ensure productivity. In demonstrating this approach the he referred to a pre-prepared chart, which we later determined had been designed by the clinical director. This depicted the patients ‘journey’ from the anaesthetic room to the operating theatre, including the procedures for consent, anaesthetic preparation, airway and circulation checks, anaesthetic administration, patient stabilisation and transport into the theatre. Here the clinical director talked staff through these stages, in each step identifying, “delays and inefficiencies in the work flow”. In particular, the manager was particularly keen to focus on problems for which workable solutions could be found within the group and, in doing so, construct ‘improvement’ as the commonsense removal of waste and inefficiency. Intermittently however, staff raised a number of ‘thorny issues’, for example shortages of staff, or alluded to known tensions in department relationships, which were not so easily solved within the confines of small group discussion. In such instances the manager, often in unison with the clinical director, worked to steer participants back to more bounded, solvable concerns.

In many ways this initial meeting set the rhetorical tone for the presentation of ‘Lean’. Great care was taken by the service leaders to portray Lean as a legitimate, almost unavoidable, step in the improvement of services. This could be seen in the frequent invocation of experiences of change in other industries; such as budget airlines where Lean has made flying affordable to the general public (‘like us’), car manufacturing where only the ‘leanest’ producers have survived. This could also be seen in the language of Lean as both ‘commonsense’, based on normal hard work and plain thinking, but also completely novel, based on cutting edge methods, advanced software, and mystical jargon. In this way Lean was promised as taking the messy, tense, daily experience of list overruns, equipment shortages and communication breakdowns, and transform it into the model of efficient modern stress free work process.

Although in this meetings practicable ways of ‘moving forward’ were presented as naturally flowing from the Lean philosophy, outside of this environment a consistent underpinning of the approach remained somewhat elusive. Rather than dismissing Lean
outright, we were surprised how clinicians in fact often offered various justifications for its implementation. The theatre managers, for example, tended to emphasise the improvements that could be made to patient throughput and resource utilisation; theatre sisters and team leaders discussed it as an opportunity to better co-ordinate staff across lists, and surgical and anaesthetic groups stressed the opportunity of reducing disruptions in their clinical work. These responses appeared to suggest that ‘Lean’ was open to numerous interpretations to fit with their prevailing concerns or aspirations for service organisation. Moreover, the service manager appeared quite strategic in playing into the different hopes of clinical groups as a means of persuading them as to its benefits. Where dissenting voices were heard, managers moved quickly to change the subject or undermine the relevance of the issue raised. More broadly, the version of Lean articulated by the service leaders emphasised the need to rethink departmental processes and tease out unnecessary or unproductive practices. This set the discursive foundation for the re-configurations in departmental practice, premised on the logical needs to reduce waste and the transmuted values of staff to delivery efficient patient care. In summary, we highlight how service leaders articulate and promote Lean in ways that persuades clinical groups as to its relevance to the delivery of patient care. Although outwardly appearing to rely on their powers of persuasion it is also worth recognising that those leading the process were also characterised by significant levels of organisational authority and occupational expertise. For instances the meeting was led by a combination of hospital and departmental managers as well as a senior medical leader, who together presented a united front to other clinical staff.

Ritual

Our second analytical theme explores the ritualistic dimensions of social practice. In socio-cultural research, rituals are those customary, patterned social practices that occur on an almost taken-for-granted basis. Important such regular and routine forms of practice also convey symbolic meanings, for example, reinforcing roles, group membership, status, or group cohesion. Focussing on ritualistic behaviours, therefore, offers an analytical lens for exploring how routine social practices connect both structure and agency. Notwithstanding this symbolic role, rituals can also become ‘an end in themselves’ whereby they are followed to demonstrate social compliance rather than to convey an underlying symbolic intent. Ritualistic behaviours have been identified in many areas of clinical practice, such as doctor-patient interaction, ward rounds and surgery (e.g. Arluke, 1977; Freidson, 1970; Waring et al. 2007). Importantly, research shows how they reinforce wider cultural norms and expectations, for example around the
status differentials between clinical groups and notions of professionalism. In analysing our observations we were attentive to whether the enactment of Lean could emerge as a set of ritualistic practices.

We return to our findings two months later, and focus on a series of activities related to the implementing Lean in practice. Our first example centres on the work of the departmental working group, comprising of the departmental manager, the clinical director, one theatre sister, two theatre nurses, one ODP, one surgical and one anaesthetic representative. We were informed by the departmental manager that these people were selected because of their willingness to engage in previous activities, suggesting they were perhaps more agreeable to Lean. A range of other individuals also participated in the working group’s activities; including the aforementioned hospital manager who provided structured direction, workbooks and toolkits for the group to follow, whilst other medical and nursing staff were asked to periodically review progress reports or take part in ‘efficiency audits’.

Although the group met weekly in a designated ‘project room’, we found that throughout the week as group members worked in this room to complete tasks, often between or after surgical lists. The room showcased their combined activities, displaying large posters that described the Seven Areas of Muda and the Principles of Lean. The most striking feature of the room, however, was the process map created for the vascular and arthroscopy pathways. Comprising many hundreds of small pieces of paper each inscribed with an activity, process or task, these spanned two-thirds of the room’s walls and depicted a horizontal flow chart of the stages involved in the delivery of patient care. The group had pride in this work and celebrated new additions or changes to the process map.

In observing the group over the first few meetings we reflected on how quickly an accepted pattern of routines, customs and order emerged. In some ways, the weekly meeting took on a ceremonial quality where participants took turns to recite their plans, feedback their findings, chart progress and share frustrations in implementing the Lean toolkit. For example, in one meeting an ODP started the review stating they had completed the re-ordering of the storeroom so that equipment could be more easily allocated; the theatre sister then described how she was planning to review the staff rota to support team stability across the two surgical lists; and a nurse explained that they had completed their audit of the patient’s journey from recovery to the ward to identify delays. We were struck by how group members had embraced the language and terminology of Lean and how the documentation and paraphernalia associated with Lean appeared to take on a heightened level of significance for these ‘champions’, with
process maps, spreadsheets and timelines becoming themselves the focus of much attention and time.

Reflecting upon these activities we interpret the members of this group as ‘converts’ to Lean. Although these activities were initially shaped by the hospital manager, the tools and language had become embedded in regular group practice. In undertaking these activities group members were able to symbolically communicate their commitment to the values of Lean to themselves, colleagues and importantly service leaders. Moreover, activities, such as adding to the process map and the weekly feedback, were as much the substance of ‘doing’ Lean as any changes to departmental practice that they might produce. We suggest these social practices resembled ‘hallowed rituals’, replete with symbolic meaning that conveyed their conversion to Lean and compliance with the vision set out by hospital and departmental managers.

Our second example considers the implementation of a daily checking activity that had been developed by the working group and implemented in the arthroscopy list. Its design was explicitly based on the 5S methodology with the intention of preparing theatres in advance of surgery to ensure their smooth, efficient and safe functioning. It aimed to avoid delays, wasteful activities and potential risks through ensuring all necessary resources were appropriately organised, ordered, and cleaned, and that clinical roles and responsibilities were appropriately defined. The completion of the activity was designated to the theatre co-ordinator, but required verbal and written confirmation from other clinicians involved before the start of the list, especially the anaesthetist. In many aspects, this resembled the WHO Safe Surgery Saves Lives Checklist, which we later found replaced this earlier version. After an initial design phase the checklist was piloted by staff, before being revised and implemented in departmental procedure.

Its application initially met with enthusiasm from staff who described it, for example, as offering “guidance” and “reassurance”. Around a month after its introduction, however, we observed instances where its prescribed checking activities were not followed appropriately followed. This tended to occur around busy periods or what were termed “messy lists”. There was no evidence that patient safety was compromised, only that staff abandoned the formal procedures, such as preparing all instrumentation or confirming staff names and returned to their pre-existing practice. It was particularly interesting, however, to find that in many of these situations clinicians would still attempt to complete these activities at a later time even though their contribution to practice was limited. For example in three separate lists we observed that the theatre co-ordinator completed the activities and signed-off the paper after the list had started
and when the pace of work had returned to normal. On another list we recorded how an ODP commented to the anaesthetists that the checklist had not been followed, to which the anaesthetist ironically replied “my name is Peter, I am the anaesthetist and I am here, lets get going”. During another observation, we observed that the theatre co-ordinator tried to stop an on-going procedure to ask each member of staff whether they had completed their individual checking activities. In these instances, the theatre preparation activities were all but superficial and obsolete as surgery had already started. However, staff still felt it important to show that they had complied with the procedures, if only through filling in the necessary paperwork.

Although tools, such as 5S, aim to ensure operational efficiency, when implemented in a particular clinical context we find significant tensions and ambiguities in their use. The design and application of this pre-operative checking became mixed with other bureaucratic activities; appearing to replicate or delay pre-existing clinical activities. Yet, clinical groups also understood that there was some expectation to complete them, even when the activities no longer held relevance to the clinical activity. These ‘hollow rituals’ appeared to demonstrate clinicians’ symbolic compliance to new ways of working, even though they might not actually contribute to service delivery. Although such methods might appear ‘path-breaking’ innovations in service delivery, when they interact with practice they can struggle to become embedded, with clinicians often returning to pre-existing roles and relationships.

Our observations revealed the different responses to Lean in practice. Those leading implementation appeared to acquire a new found and leadership role in departmental planning. Not only does this highlight some form of re-stratification amongst clinicians, but in practice their new roles and responsibilities took on a ritualistic quality, symbolising their commitment to the philosophy of Lean. For clinicians not directly involved in the project, Lean was seen in more ambiguous terms. Yet the Lean activities increasingly became a feature of daily practice and many felt compelled to show compliance. These ritualistic attempts to ‘show willing’ were at the most evident at times of pressure and change when clinicians would feel compelled to comply with new working practices, despite returning to established ways of working. Our findings suggest that Lean had different priorities for different groups, and as such its take up was varied with clinicians often modifying or reprioritising Lean activities so that they better fitted or aligned with the routines of clinical practice.

*Resistance*
Our third analytical theme explores how social practices are imbued with power and resistance. The focus on resistance foregrounds the way practices can develop in opposition to the activities or interests of others, highlighting the mobilisation of different arguments, resources and strategies and the ways actors counter, corrupt or capture change in order to restore or advance their own community interests (Adler et al. 2008; Lozeau et al. 2002). A focus on resistance takes us beyond the structured dynamics of social power, to consider instead how power relations are manifest in everyday practice. The two themes discussed above illustrate some of these points of conflict in the interpretation, articulation and implementation of Lean into practice, in developing these further we were attentive to the more explicit forms of resistance amongst clinical groups.

We focus on the implementation of the new arthroscopy care pathway around four months after the initial departmental meeting. Since that time the working group had identified several efficiency savings in the care pathways. Notable examples included the formalisation of task division within the theatre team; the addition of numerous tasks and checklists, such as laying out of equipment before medical staff arrived for each list; condensed handover between clinical domains along the pathway and the cutting of certain pre-operative checks that could be completed prior to the day of surgery. When asked to reflect upon these changes clinicians often described how their work appeared to ‘flow’ more quickly with fewer delays. Moreover, the departmental manager and theatre sisters claimed this surgical list had greater team stability and less reliance on agency staff, and the clinical director stated there had been a 20 per cent increase in patient throughput. However, many participants also expressed a degree of cynicism and resistance to these changes. This was manifest in three ways: first relating the motives of service leaders, second the expertise of service leaders and third to the perceived negative consequences for their practice.

A significant line of resistance related to staff beliefs about the underlying values of the working group. In particular, clinicians often argued that the group prioritised departmental efficiency and productivity over quality and patient experience. Although the hospital manager had worked to link these dual concerns in the earlier meeting, over time and when experienced in practice, this marriage of motive appeared divorced with clinicians struggling to appreciate how the changes introduced served to raise quality. As such, our participants often described the extra work and attention needed to ensure service quality when working to faster lists.

“They’ve pushed through more cases and we have managed to keep up with the new pace. There is less waiting around. But you have wonder about the safety
and whether we are missing things because we are rushing so much. I guess we just have to be more vigilant and make sure we follow procedure.” [Claire, ODP]

Participants also had reservations about the working group’s knowledge and experience of departmental processes. It was argued that process mapping and waste audits were completed by those without a detailed understanding of how and why practices had developed as they did. On the one hand, it was felt that the recommended changes failed to reflect the expectations of frontline clinicians. On the other hand, it was suggested that staff could always not implement the proposed changes because of national and professional guidelines, again demonstrating to our participants the working group’s lack of expertise in this area.

“What do they actually know? [Hospital manager] has never worked here, never set foot in the department before. [Department manager] might know how you run the department, but she deals with the resourcing and rotas, not what we actually do. It’s ludicrous to think that I could tell them how to do their job.” [Gavin, Nurse]

Through questioning both the working group’s motive and expertise, our participants came to doubt their legitimacy to enact departmental change. Over the course of our observations clinicians increasingly vocalised the view that the working group had become dominated by managerial interests to “cut costs”. Moreover, members of the group were described as “the chosen ones” highlighting the idea that a ‘higher power’ – the hospital manager - had appointed them. Elaborating this view, it certainly appeared that hospital managers had indeed devolved responsibility for service improvement to frontline leaders, thereby avoiding direct conflict with clinical staff. Co-opting clinicians into leadership roles did little to mitigate resistance; rather it appeared to redirect antagonism at the local level with hostilities evident between clinicians and the working group.

Clinicians were also critical of many of the changes to their work. Several clinicians were concerned that new procedures overly standardised and structured their work to the extent that they would lose skills and experience in other clinical areas. For nurses and ODPs this could limit career development, whilst for team co-ordinators there were concerns that an overly standardised and role-bound workforce would compromise the department’s ability to allocate staff flexibly in the light of unanticipated changes. There were also concerns about the impact on and control of clinical roles and responsibilities, especially between clinical groups and with managers. Surgeons often remarked that the departmental manager had “no business in telling me when I should arrive in theatre”. Surgeons also found it inappropriate that new procedures required them to undertake
additional checks and paperwork in advance of surgery and that were seen as “not related to my work”. Similarly, many anaesthetists were hostile to being required to complete duties that had previously been the held by escort nurses and ODPs, and argued that pre-operative checks took them away from their primary responsibilities.

“The checklist is a great idea, I just don’t see why we have to do. It’s really for nursing issues, about instrumentation and equipment. We have our own checks that work really well and frankly it is a waste of my time.” (Clarke, Anaesthetist)

When asked about the lasting impact on their practice, clinicians typically suggested that what might look like a “good idea in theory” was often “difficult to put into practice”. Somewhat ironically, the primary resistance to change related to additional time demands made on clinical work. However, in many instances staff simply found it more convenient to return to their customary ways of working; simply ignoring new guidelines for handovers, record-keeping or clinical roles.

One particularly strong and public act of resistance was the defacement of a large poster that graphically illustrated the new arthroscopy and vascular care pathways. A few days after this had been displayed in the staff lounge we found numerous, graffiti-like, handwritten comments had been added to the chart. For example, the diagram’s Legend had been suffixed in pencil with “Fairy Tale; Work of Fiction”. In areas where it designated times for certain tasks, such as ‘thirty second for patient checks’ somebody had written “staff need more than thirty seconds, what we need here are more well trained and motivated staff”. In another area staff had written “why don’t you tell the surgeons not to use email all the time during lists”. These comments revealed some of the frustrations staff felt about the proposed changes and their lack of engagement in the change process.

The lines of resistance to Lean were multidimensional, and in our experience there was no single issues that galvanised staff into open confrontation with the working group. Rather clinicians tended to find fault with different aspects of the process, from the role of the working group and pernicious influence of management, to the impracticalities of implementing change and frustration with extra responsibilities. This dispersed form of resistance, led to simmering conflict within daily practice, whereby staff often acted defensively when new changes were presented, but publically remained open to the possibility that they might improve working practice.

**Conclusions**
At the outset we suggest the implementation of Lean healthcare might represent another stage in the re-organisation of healthcare work. Specifically, we characterised it as contributing to the three prominent lines of change within contemporary healthcare reform: the use of evidence-based guidelines, the reconfiguration of occupational boundaries and new forms of clinical leadership. Our research reveals that the implementation of Lean certainly fits with these trends. First, it attempts to establish evidence for the rationalisation and transformation of clinical processes and pathways leading to more streamlined and productive working. Second, it necessitates the reconfiguration of working practice, including jurisdictional roles and responsibilities, to ensure that these new procedures and pathways are followed. Third, it involves the re-stratification of clinical staff, not merely on the basis of uni-professional managers, but through multi-professional groups that lead and enact change amongst their departmental colleagues.

The aim of study, however, was to go beyond this level of analysis and to consider instead how management strategies and technologies, such as Lean, interacted with and impacted upon clinical practice in a particular organisational context. In developing this ‘technology-in-practice’ view, we highlighted three analytical lenses from our findings that explore the interaction of Lean and clinical practice. First we considered the articulation of Lean by service leaders as an example of rhetoric and persuasion, highlighting some of the ways different groups ascribe different meanings onto Lean, and how ‘values’ of ‘patient care’ are re-articulated in terms of efficiency and productivity. Second, we examined the ways Lean activities had become ritualised within clinical practice, both as hallowed rituals for the leaders of Lean and more hollow rituals for clinicians wishing to show compliance. Third, we discussed the lines of resistance to Lean within clinical practice, focussing on staff apprehensions about the motive and expertise of service leaders, and the ways clinicians worked around or undermined service changes. These three lines of analysis present valuable ‘windows’ for exploring organisational practice or the mediation of both human agency and social structure. Moreover, they provide a means for investigating the way Lean and clinical practice are mutually re-constructed through the processes of change. In particular, we show how Lean is transformed from a philosophy into a specific set of activities, whereby different social and cultural ideas are imprinted onto the eventual manifestation. Equally, we show how clinical practices are changed and modified in these processes, as some clinicians adopt new responsibilities or follow new practices, whilst other work to counter their influence. Over the course of our observations we traced often profound changes in both clinical practice and the idea of Lean healthcare, as they interacted and impacted on each other.
Our study reinforces the view that the reorganisation of healthcare work should not be reified to either a process of ‘top-down’ restructuring or a ‘bottom-up’ form of action (Gleeson and Knight, 2006; Waring and Currie, 2009). Rather it should be seen through the interaction and mediation of different actors over time, giving rise to new, often subtle changes in social practice. In particular, it highlights the contingent nature of organisational change and the way clinicians can corrupt, ‘game’ and capture attempts at reform to maintain or extend their influence, or counter the interests of others (Ackroyd, 1996; McGiven and Ferlie, 2008; Waring and Currie, 2009). As such our work contributes to the growing field of research that is attentive to the ‘institutional work’ of making and re-making healthcare organisations, especially the situated interplay of managerial and professional practices. Finally our study makes some tentative conclusions about the future of Lean healthcare. Despite the growing body of evaluative research in the area, there is a paucity of socio-cultural research that explores in detail the ways in which it is implemented and interacts with pre-existing clinical practices. We suggest that making healthcare service Lean is likely to be a highly contested process, as it becomes reinterpreted and reshaped by different social actors to ensure that it fits with their prevailing vision or aspirations for clinical practice. As such, it enters into a social world fraught with conflict and disagreement, and unlikely to survive the translation to practice fully intact.

References


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