

Introduction

Theoretical background

'Lean' is regarded as a philosophy that focuses on customer value and improving efficiency and productivity through the elimination of waste from the system (Liker, 1996). It has been widely adopted across the National Health Service (NHS) in the United Kingdom (UK) since it was promoted by the NHS Modernisation Agency in 2001 (Brandao de Souza, 2009). The adoption of Lean in the NHS has largely been driven by the need to increase efficiency at the same time as improving patient care during a period of workforce challenges, financial constraint, rising demand and changing health and social demographics (Beech et al, 2019; Healthcare Financial Management Association and NHS Improvement, 2017). The need for the NHS to focus on quality improvement, defined as "designing and redesigning work processes and systems that deliver healthcare with better outcomes and lower cost" is stressed (Ham et al, 2016, p.3) but there are criticisms that healthcare quality improvement efforts are atheoretical (The Health Foundation, 2011). Accordingly, Lean has been widely studied in healthcare with a dominant focus on improvements in operational efficiency and effectiveness (D'Andreamatteo, 2015; Taylor, 2019) guided by 'improvement science'; an applied science emphasising the application of improvement methods and tools to generate learning about what changes, in what contexts, to produce improvements (Institute for Healthcare Improvement, 2019).

This contemporary need to develop a scientific approach to understanding Lean in healthcare can be seen in the historical 'Scientific Management' roots of Lean (Taylor, 1911), which is predicated on reductionism and determinism. That is, objectively assessing human labour to determine optimal productivity. Whilst there are merits in studying Lean through a scientific lens based on classical organisational theory, we suggest that much may be learned by drawing on Human Relations theory. Seminal works in this field demonstrate a complex relationship between technical management practices and human behaviour. For example, the work of social reformer Mary Parker Follett emphasises relational and group interaction in management thinking, revealing that individuals' sense of identity, group belonging and pride in meaningful work were important factors in work motivation (Wren, 1994). Similarly, research from the Tavistock Institute of Human Relations highlighted a relationship between social systems e.g. social relationships, attitudes, feelings about work, and technology e.g. job design, environment (Trist and Bamforth, 1951).

Problem formulation

Despite the evolution of these humanistic theories with their emphasis on human relationships, motivators, feelings and attitudes, their influence is not evident in the extant Lean healthcare literature. Instead, Lean research in healthcare tends to draw on classical organisation theory (specifically Scientific Management), focussing on reducing Lean implementation into component parts (e.g. critical success factors) to determine the optimal conditions or approaches organisational leaders may control to maximise success of Lean activities (Taylor, 2019).

Research aim/questions

This study therefore aims to contribute to the literature on Lean implementation in healthcare by studying the emotional experiences of the relevant actors related to a Rapid Process Improvement Workshop (RPIW) in a UK Healthcare context. The study addresses the following research question: 'What is the human experience of Lean?'. The specific focus on emotions as part of the human experience of Lean came about through the inductive and emergent nature of this study during the data analysis process.

Rapid Process Improvement Workshops

Lean was implemented in the study site through a 'Rapid Process Improvement Workshop', sometimes referred to as a 'Rapid Improvement Event'. Both are the terms used in healthcare for the Lean tool 'Kaizen Event' (Eaton, 2009). 'Kaizen' is a Japanese word which translates in English to mean 'continuous incremental improvement' (Womack and Jones, 2003). The term 'Rapid Process Improvement Workshop' is adopted in this paper because that was the term used by the study participants. Whilst the terminology differs, the logic of the tool is the same; that is, a cross-functional team of six to twelve people, assigned specific roles, dedicating all of their time to an improvement effort over a very short period (Bicheno and Holweg, 2016). A range of resources are available to guide RPIW implementation (e.g. Bicheno, 2008; Eaton, 2009; Lean Health Services, 2018). The format of these resources is 'technical' in nature; they are 'how to' prescriptive steps to follow from developing the right culture for Lean/RPIWs through to RPIW preparation, implementation and sustainability.

Lean Literature

This methodological application of Lean principles through RPIWs and associated tools, such a process mapping, is evident in healthcare research; most commonly applied to improve clinical or administrative processes of a defined aspect of service delivery (Poksinska, 2010). The studies are typically a 'before-and-after' design (NHS Improving Quality, 2014) where baseline and post-change performance measurements are compared

to establish if any process or performance improvements have been made (e.g. Smith et al, 2012). The Lean healthcare literature is dominated by such studies that report improvements in operational efficiency and effectiveness such as waiting times, cost savings, reduced errors, and sociotechnical factors such as patient satisfaction and staff morale (Taylor, 2019; D'Andreamatteo, 2015).

However, there is concern as to whether Lean in healthcare has reached a 'glass ceiling' whereby efficiency gains are seen in the short-term but that in most cases efforts stall or fail to become more wide-spread (Radnor et al, 2012). Lean healthcare benchmark organisations report limitations with their Lean efforts. For example, eight years after adopting Lean, Barnas (2011, p.1) from Thedacare stated:

“our experience seems to mirror what other observers have found with Lean implementation. After initial successes improvements seem to plateau.”

The perception of Lean as a set of technical tools to improve processes is regarded as the main reason for lack of sustainability of Lean improvements in healthcare (Burgess and Radnor, 2013; Matthias and Buckle, 2016) and is something Seddon (2005) refers to as the 'toolhead' mentality. In the context of humanistic theories which demonstrate the complex relationship between technical and human aspects of organisational management, the suggestion being made is that this 'glass ceiling' is created by a dominant limited mechanistic view of Lean implementation. That is, a focus on the technical application of Lean methods and tools without due consideration of the relationship with the people applying those tools; their motivation, attitude, emotions and feelings towards their experience of Lean. By studying the human experience of Lean that encompasses these humanistic factors, more light may be shed on this apparent barrier to the implementation, impact and sustainability of Lean.

Correspondingly, some studies suggest that engagement with Lean is more complex than providing practical support mechanisms such as time, resources or training; that perceptions of Lean are influential in individuals' decisions to engage with the method. Those perceptions largely relate to perceived benefits to patients and staff (Bradley and Griffin, 2015; Eriksson, 2017) or to barriers and facilitators for Lean implementation. For example, engagement with Lean was found to be more probable when teams were provided with ownership of the change (Hamilton et al, 2014) autonomy and empowerment (Hung et al, 2017) and where the Lean initiative appealed to the clinical priorities of staff (Morrow et al, 2010), their professional values (Hasle et al, 2016), and their personal views and ambitions

for the service (Papadopoulos, et al, 2011). These findings suggest that individuals' perceptions of Lean are an influential factor in the decision to engage with Lean such that practical support mechanisms alone may be insufficient.

Such findings are reflected in a study by Van Grinsven et al (2019) which highlighted how individuals interpret and personally relate to Lean are important factors in relation to how Lean is supported and institutionalised. The authors recognise that Lean is not a fixed entity but is continuously constructed as individuals translate what Lean means to them and how they perceive wider organisational engagement with it. This study represents an important advance in understanding Lean in healthcare. It marks a move away the dominant mechanistic lens through which Lean is applied and evaluated in healthcare that focuses on reducing Lean implementation into component parts, such as critical success factors, to determine the optimal conditions or approaches organisational leaders may control to maximise success of Lean activities.

Whilst these studies acknowledge the humanistic elements of Lean implementation, analysis resides at the level of cognition. That is, what did people *think* about the Lean initiative in which they were involved. Such 'cognitive-appraisal' is a fundamental part of human experience but does not capture the whole experience which also includes an 'affective state' comprising 'emotion' and 'mood' (Comer et al, 2013). There has been a relative paucity of research to fully explore how people *feel* about their experience of Lean; what their emotional experience is. This is an important consideration to advance our understanding of Lean in healthcare beyond the level of cognition. Not least because emotions are regarded as being central to everyday life, individually and socially and they make social systems viable (Rustin, 2009; Turner and Stets, 2005).

This study aims to address this gap in knowledge by adopting an interpretivist theoretical perspective that goes beyond what people *think* about Lean, towards their subjective, emotional, '*feeling*' experience, and does that emotional experience influence Lean implementation.

Research Design

Theoretical perspective

Although Lean is identifiable as a set of principles and tools, our position is that it is a construct of the human mind; not a physical, reified entity. This perspective views human experience as "a reciprocal relationship [that] exists between the observer and the phenomenon that includes all thought, moods, efforts, and actions" (Richards and Morse,

2013, p.71). As such, an existential phenomenological perspective was adopted in this study, such that meaning and sense-making are not isolated from, but rather connected essentially, and intentionally, to the object of experience (Stapleton, 2014); in this case the experience of Lean implementation. Furthermore, as Lean only comes into being when enacted by people and, in terms of organisational life, in a collective sense, reality for those involved in Lean is socially co-constructed as they interact with Lean principles and with each other in that process. Consequently, symbolic interactionism was the second theoretical perspective informing this study. The premise of this perspective is that humans act towards things based on the meaning those things have for them and that meaning is learned through social interaction with others. Such social actions are defined as visible behaviours as well internal actions such as thoughts and emotions (Williams, 2012).

Consequently, these two perspectives were combined to facilitate a 'humanistic' approach to the study that emphasises subjective experience, perceptions and feelings as a way of understanding a phenomenon (Gross, 2014).

Methods

We used a qualitative case study with semi-structured interviews and non-participant observation.

Study setting

The study was conducted at an English Foundation Trust Hospital with a workforce of 9000 and serving a population of 1.5 million. The Trust employed RPIWs to implement Lean within the organisation and an RPIW within acute services was included in this study. The focus of the RPIW was the introduction of a new community service allowing patients who would normally receive treatment as an in-patient, to be treated at home.

Participants

All 27 participants (staff selected by the Trust to take part in the RPIW) consented to being observed and 9 participants consented to be interviewed. See Table 1.

Table 1 Study participants

RPIW role	Role within the Trust	Interviewed
Sponsor	Head of Nursing	No
Process Owner	Clinical Matron	Yes
Workshop Leaders	Business Manager	Yes
	Information Systems Analyst	Yes
Team Members	Community Matron x 2	No

	Information Technology Systems Officer	No
	Clinical Matron	No
	Clinical Commissioner	No
	Sister	No
	General Practitioner	No
	Directorate Manager x 2	No
	Physiotherapist	Yes
	Nurse x 5	No
	Pharmacist	Yes
	Ward Manager	Yes
Advisory	Consultant x 2	No
	Clinical Matron	Yes
Observer	Service Improvement Lead	Yes
Assessor	Head of Kaizen Promotion Office	No
RPIW Administrator	Administrator	Yes

Ethics

The study was approved by the University research ethics committee and the study-site Trust's local Research and Development department.

Data collection

Data was collected over the one-year period of the RPIW (June 2015-June 2016). This included non-participant observation of the entire RPIW from the initial five-day workshop to each subsequent Report Out, totalling 10 days. Observational fieldnotes were made to record the physical setting, who was present, the timing, process and content of activities, visible behaviours, expressed emotions, the mood or 'feel' in the room and the issues being discussed with as much verbatim recording employed as possible using dialogue mapping (Conklin, 2006). Additionally, all documentation displayed on the walls of the RPIW room were noted. These included RPIW process information, RPIW roles definitions, RPIW aims and pre-RPIW performance data. Reflective notes were made to capture what appeared significant (at the time or later on recall) and questions about what was happening to explore with participants during interviews.

Audio-recorded, semi-structured, one-to-one interviews were held with participants at the end of the five-day workshop, mid-way during, and at the end of the Report Out period. Questions focussed on participants' reflections and feelings about their experience. Each participant was interviewed up to 3 times, for 30 minutes on average, resulting in 19 interviews and transcripts totalling approximately 68,000 words. Audio-recordings of the interviews were transcribed, verbatim, immediately after the interview. These transcripts

were read and re-read following each round of interviews and mind maps were created to help identify issues the participants had raised to explore in more detail with them in the next round of interviews.

Data Analysis

Data was analysed using Thematic Network Analysis (Attride-Stirling, 2001). First, data was organised temporally to align with the temporal structure of an RPIW from the pre-five-day workshop period to the last Report Out. Data was then dissected into manageable and meaningful text segments that related to participants' emotional experience of the RPIW identified by the use of emotion words, or inferences of emotion, guided by the multidimensional model of emotion the 'Affective Circumplex' (Lindquist, 2014). Next, salient or common themes were extracted from the coded text segments by grouping together related or similar coded segments in relation to the emotion and the cause of that emotion. The themes were then reviewed and refined to create themes that were discrete and non-repetitive but still broad enough to capture the range of concepts spanning text segments and articulated as Basic themes. These were then organised into similar, coherent groupings with shared issues to create Organising themes. Finally, in light of the Basic and Organising themes, a Global theme that encapsulated the main claim in relation to the human experience of Lean was created. See Table 2 which details these themes and indicates the temporal point of the RPIW (as derived from the RPIW 'how to' guides) to which the theme relates i.e. Developing culture, RPIW preparation, implementation and sustainability

Table 2 Basic-organising-global theme relationship

Basic theme	Organising theme	Global theme
<p>Whilst participants were sceptical about Lean, the RPIW was regarded as a tool that would guarantee success and was occurring at a serendipitous moment so participants felt hopeful, confident, optimistic and excited (Developing culture)</p> <p>Pressure to succeed evoked feelings of anxiety and a fear of failure (Implementation)</p> <p>The RPIW experience was tiring but a uniquely positive one that was rewarding and enjoyable, evoking feelings of happiness, pride, and a sense of purpose (Implementation)</p>	<p><i>Theme 1</i> Emotions related to Lean and the RPIW</p>	<p>Participation in an RPIW is much more than a technical process as it influences how people feel about themselves, is based on relationships with others, and requires mental, physical and emotional effort, all of which influences engagement with, initiation of, and sustainability of RPIWs</p>
<p>Being invited to be a part of an RPIW instils a sense of value and self-worth (Preparation)</p> <p>Recognition of personal contribution and personal value to RPIWs is important (Implementation)</p> <p>Participants experience self-doubt in relation to RPIW responsibilities evoking reluctance, apprehension and panic (Implementation)</p> <p>Lean Leader training is an enjoyable experience and develops self-confidence (Preparation)</p>	<p><i>Theme 2</i> Emotions related to self</p>	
<p>Friendships are formed as part of the RPIW experience and such social bonding is valued in terms of mutual support and negating anxiety (Implementation)</p> <p>The RPIW format broke down organisational and professional barriers which facilitated relationships, communication and feelings of equality (Implementation)</p>	<p><i>Theme 3</i> Emotions related to others</p>	
<p>Intrinsic values and passion to improve patient care facilitates engagement with an RPIW (Developing culture; Preparation)</p> <p>The offer of personal benefit and reward facilitates engagement with an RPIW (Preparation)</p> <p>Loss of decision-making power and control evokes anger and threatens engagement with an RPIW (Implementation)</p>	<p><i>Theme 4</i> Engagement with the RPIW</p>	
<p>Participating in Lean Leader training and an RPIW requires significant time commitment (Preparation)</p> <p>Participants struggle to manage competing demands and feel anxious, fearful and guilty for taking their attention away from other personal and professional commitments (Implementation)</p> <p>Maintaining momentum of an RPIW requires significant effort, tenacity and perseverance (Sustainability)</p>	<p><i>Theme 5</i> Physical, mental and emotional effort</p>	
<p>Failure to meet expectations and realise desires evokes feelings of sadness, disappointment and a sense of loss (Sustainability)</p> <p>Participants feel aggrieved and let down when a return on investment of their commitment, time and effort is not realised (Sustainability)</p> <p>Scepticism towards RPIWs and Lean is provoked when expectations are not met (Developing culture)</p>	<p><i>Theme 6</i> Unmet expectations</p>	

Findings

Participants experienced a range of emotions in relation to the RPIW, with some describing it as an 'emotional rollercoaster' with 'high peaks and low peaks'.

"It's sort of a rollercoaster of emotions really" (Workshop Leader)

"We got warned beforehand that you always have your really high peaks and your really low peaks, and I think we did have them" (Team Leader)

This is in contrast to the linear nature of technical 'how to' RPIW implementation guidelines. Additionally, participation in this RPIW influenced how people felt about themselves, was based on relationships with others, and required physical, mental and emotional effort; all of which influenced engagement with, initiation of, and sustainability of the RPIW. This global theme is supported by the following six themes.

Theme 1: Emotions related to Lean and the RPIW

General feelings about Lean and RPIWs were mixed. In terms of Lean as a philosophy, some participants felt sceptical, questioning the cultural relevance and regarding it as a fad. In terms of RPIWs, participants felt confident that success was guaranteed. This was in part due to the perceived logic and speed of the tool and in part due to growing buy-in from colleagues across the organisation. There was a feeling of confidence, optimism, hope and excitement for the future.

"[Everyone is] very excited about it starting, there's an upbeat feel for the future"
(RPIW Lead)

However, these positive emotions were accompanied by negative emotions brought about by pressure to succeed. Central to this source of pressure was accountability to the Chief Executive who championed Lean, and the scrutiny and expectations of others, evoking fear and anxiety. Participants felt the weight of responsibility for the success of the RPIW. They feared letting people down, failing to meet expectations and resultant repercussions. At the same time, the Chief Executive's commitment to RPIWs engendered positive emotions of confidence, belief and optimism. In this sense, accountability to the Chief Executive was regarded as effectuating success because participants knew others (as well as themselves) had to engage with the RPIW and complete any actions assigned to them.

During implementation participants struggled to apply Lean principles and tools, with the task being regarded as impossible at times. This caused feelings of anxiety and frustration. Furthermore, the prescriptive format of RPIW implementation guidelines was frustrating, restricting and regarded as a waste of time; particularly the methods employed early in the five-day workshop. The obligation to engage with such pre-defined activities evoked feelings of boredom and the urge to rebel.

Theme 2: Emotions related to self

In relation to self, participants' accounts emphasised the significance of invitation to be part of Lean implementation in terms of conception of self as a valuable member of the organisation. When this value was recognised through invitation to the RPIW, participants felt gratified and that they were being invested in.

“If they're giving me five days out of my job they must think that I'm worth being part of this team is kind of that feeling of being invested in... it's that value isn't it, to being considered a valuable member of the team to go and be part of it” (Process Owner)

When participants were not included as part of formal invitation to the RPIW, they felt aggrieved and were affronted by this lack of recognition. Nevertheless, once involved, participants valued the opportunity to enact their conceptualisation of self as a caring, compassionate professional. Professional and personal values of care, compassion and empathy were expressed in relation to the RPIW experience. Participants' view of 'self' as an advocate for patient care was affirmed and they felt validated by undertaking meaningful work.

Despite these positive emotions, participants who were Lean Leaders felt daunted by their responsibilities and experienced reluctance, apprehension, panic and self-doubt. The RPIW was described as a threat to personal 'safety' because they felt unprepared for their roles and feared failure.

“You're a bit apprehensive, 'well can I do this?' because you always question yourself don't you so you're apprehensive, it's a new thing... you're frightened of failure” (Workshop Leader)

They were nervous and adopted a persona, projecting confidence, as a form of protection. Due to feeling anxious, participants applied discretionary effort and drew on a sense of

shared circumstance to seek reassurance. This was expressed in the form of safety in numbers and affinity with others “in the same boat” as themselves.

Theme 3: Emotions related to others

Indeed, relationships with others was a significant factor across participants' accounts. Friendships were formed as part of the RPIW experience.

*“We all became friends and I think it was just nice to help each other out really”
(Process Owner)*

The importance of building rapport and relationships was emphasised, particularly by Lean Leaders. Friendship, empathy and mutual support were important for them to feel confident in their lead RPIW role and in turn, this helped them to fulfil their role requirements. Furthermore, social bonding that was elevated beyond professional working relationships was important in relation to all participants feeling confident and enjoying their experience. Such relationships were highly valued and evoked feelings of happiness, satisfaction, pride, confidence and feeling supported.

The format of the RPIW facilitated social bonding. Physical attendance meant that individuals met and worked with one another in person rather than communicating through emails as they previously had. This offered an opportunity to understand and appreciate diversity of perspectives and ways of working, thus developing group cohesiveness. Indeed, the importance of senior management investing time in people to work together was regarded as key to the development of group cohesiveness and feeling of value. There was both attraction to the group as an antecedent to group cohesiveness (self-worth and value in being part of the RPIW as discussed in theme 2) and then, as a consequence of group cohesiveness there was a sense of satisfaction, unity and pride.

Integral to group cohesiveness was the experience of positive emotions. They included feelings of self-worth, a sense of belonging, pleasure and satisfaction. Emotions were key in participants' commitment to the RPIW process as a shared, group endeavour underpinned by friendship.

Theme 4: Engagement with the RPIW

A recurring concept across participants' accounts was the desire to provide high quality patient care. Feelings of compassion for patients and frustration with poor standards of service provision was upsetting and a strong motivator to improve the patient experience.

Such professional values, and capacity for empathy, led to feelings of passion and, not only a will to engage with the RPIW, but the application of discretionary effort to support the process.

“The buy-in was already there purely from the experience. We didn’t need to have that evidence to kind of, to actually change someone’s opinion so it worked for us... there was a lot of passion there” (Team Leader)

The shared experience of current service delivery and resultant emotions of frustration, upset and passion were fundamental to immediate and widespread engagement with the RPIW. This was evident across professional and organisational boundaries.

Theme 5: Physical, mental and emotional effort

Participants described their RPIW experience as requiring mental, physical and emotional effort. The RPIW format was described as being “intense” and “driven” such that participants were exhausted by the end of the five-day workshop. They felt personally responsible for the RPIW and worked hard to meet the demands of the time-limited format. However, they felt guilty for providing that time and effort because this took their attention away from the responsibilities of their substantive role.

An element of personal cost to the effort expended was portrayed as participants described exhaustion and the need to consider the impact on their health and well-being. In fact, accounts of physical pain were expressed.

“It’s like having a mammogram. Anyone who tells you having a mammogram isn’t painful are lying because it’s the most painful experience you can go through...they mightn’t feel them emotions as the same as I did or at them points but they will feel some of that. Up and down moments as and when they go through the process... you’ve got to look after your health and well-being a bit. It’s great, but you lose, you use a lot of energy both mentally and physically” (Workshop Leader)

Of particular note, was participants’ bounded view of their involvement in the RPIW. Once the five-day workshop was over, they transferred all responsibility for the RPIW to the Process Owner.

“You walk away...you’ve got your Process Lead who basically is then left to carry everything because I’ve done my bit” (Team Member)

The RPIW team became emotionally detached as they “walked away”. This negatively impacted both the RPIW process and the person (Process Owner). Progress slowed as participants returned to their day jobs and the RPIW was no longer a priority for them. It was only the Process Owner’s tenacity and perseverance that maintained momentum. In terms of emotional impact, the Process Owner experienced anxiety and frustration. She found the effort she had to exert to sustain the RPIW difficult and tiring, but she remained driven by her intrinsic values related to patient care and commitment to succeed. The notion of personality and being a “completer-finisher” was highlighted as being key to maintaining progress of the RPIW.

Theme 6: Unmet expectations

Participants had high expectations for the RPIW. They did not doubt that the RPIW would be a success and were excited about the opportunity to realise long-held desires to improve patient care. However, those expectations were not met as during the Report Out period, organisational restructure resulted in all RPIWs being suspended. Strong emotions were described including a sense of loss, expressed through feelings of sadness, disappointment and shock. Furthermore, participants felt aggrieved and annoyed by the lack of return on investment of their time and effort.

Some participants accounts depict the RPIW experience as having provided a sense of purpose. It had been an all-consuming experience which had taken personal effort to engage with. There was a sense of shock in the loss of the RPIW but being let down was regarded as inevitable. Losing the RPIW resulted in participants questioning their belief in the method. Feelings of scepticism towards Lean resurfaced.

“What it’s done is make me think that when a new buzz thing like Lean... it goes off the boil and then something else will be in next year and that’s how I see it...I’ve seen these type of things happen before” (Workshop Leader)

The emotional investment people make in Lean implementation was highlighted.

“More support is required for staff going through the RPIW process because there is a lot of emotional investment in the process, it’s not just about the outputs. Management tend to concentrate too much on the process side of things and there is a tick box mentality without thinking further about the investment people make with their time and emotions” (Workshop Leader)

The tension between technical and humanistic elements of RPIWs was emphasised. This participant appeals for a greater focus on people and less on process.

Discussion

This qualitative case study has revealed participants' emotions related to Lean as experienced through an RPIW. Their accounts highlight the emotions evoked through participation and how their emotions influenced the RPIW process. In this section, the six themes identified have been aligned to the RPIW process from 'developing culture' to 'RPIW preparation, implementation and sustainability' as detailed in the RPIW 'how to' guides previously discussed. The purpose of doing this is to provide temporal order to the emotional experience of an RPIW and to facilitate the creation of our new humanistic framework for RPIWs that follow the recognised RPIW process.

Developing culture

This study highlights that emotions related to Lean and RPIWs (Theme 1) are relevant to organisational efforts to develop a 'Lean culture' and securing engagement with RPIWs (Theme 4). It is recommended that healthcare leaders demonstrate visible commitment to Lean and focus on the principles rather than tools as part of developing a conducive culture and context for Lean implementation (Radnor et al, 2006). The findings of this study suggest that fear of failure and belief in success are juxtaposed when RPIWs are integrated into organisational culture through senior leader commitment to Lean. There are practice implications of this in terms of buy-in to Lean and whether this is predominantly intrinsically, or extrinsically motivated. The concept of intrinsic and extrinsic motivation to engage with improvement activities is recognised in the healthcare quality improvement literature (NHS England, 2019). The potential benefit of both motivational factors is recognised but recommendations are an emphasis on intrinsic motivation if effective, sustainable change is to be realised (Bevan and Fairman, 2014). Therefore, if visible senior leader commitment to Lean is part of organisational strategy to engage staff, the interpretation of what this means to individuals should be explored to understand if this leads to perceptions of support and direction, or negative emotions such as fear and anxiety. Specifically, intrinsic motivation should be emphasised.

Previous studies have found that engagement with Lean is more probable where the initiative appeals to professional values (Hasle et al, 2016). This study supports these findings but adds an additional dimension in terms of the related emotions to these professional values and the motivation to engage. The current process for engaging staff in an RPIW is data-driven and based on rationality to demonstrate the existence, scope and

root cause of the problem the RPIW aims to address. There is no further consideration of securing buy-in to initiate the RPIW beyond this rational evidence. In this study, there was no requirement for lead RPIW participants to present evidence to gain buy-in through logical appeal. The evidence for the need for change existed in individuals' experiences of current patient care, and their emotional connection to the focus of the RPIW. The implications for practice, therefore, are that the pre-workshop data collection period for RPIWs should include exploration of individuals' emotional experiences and emotional connection to the focus of the RPIW. An understanding of how people *feel* about the current situation may support an assessment of how much support there may be for the RPIW and how viable the RPIW is in terms of engagement with, and support for, the process.

The study findings highlight that people invest personally into the RPIW process. For them, it is more than a technical endeavour, applying Lean principles and tools. It provides a sense of purpose, self-worth and a unique sense of belonging; of commonality and togetherness in a shared and rewarding experience. Participants were willing to invest in the process at personal cost (taking time away from commitments in their professional and personal lives) because of this intrinsic motivation. As such, when the RPIW was suspended participants felt aggrieved that their commitment was not reciprocated. The study findings highlight the significance of emotions related to unmet expectations (Theme 6) and the notion of a 'psychological contract'. A 'psychological contract' is defined as "the actions employees believe are expected of them and what response they expect in return from the employer" (Rousseau and Greller, 1994, p.386). In essence, the psychological contract was breached. Conway and Brinner (2005) summarise the empirical evidence on the impact of breaches which include feelings of anger, betrayal, upset, dissatisfaction and sadness. Such feelings were evident in this study and led to resurfacing of scepticism towards Lean.

There are implications for this in terms of healthcare organisations developing a Lean culture and expecting staff to engage with Lean principles and tools. It may be beneficial to make explicit the 'terms' of the contract when employees are asked to commit to Lean or an RPIW. To make it clear what is expected of employees, what they may expect in return, and what the strategy would be should there be a potential breach in contract. It is suggested that recognition of a psychological contract in this individualised manner, and an appropriate strategy to effectively manage such a contract, may negate negative emotions as were evident in this study when there is a breach. Both employees and organisational leaders would then be in a better position (relationship) with regards to on-going improvement strategies and associated expectations.

RPIW preparation

The standard process for RPIW participant selection in technical, 'how to' guides is for employees to be selected based on their job role to ensure individuals with relevant subject expertise are involved (Bicheno, 2008). However, what this study has revealed is that emotions related to self (Theme 2) such as self-confidence, how engaged individuals are with the RPIW (Theme 4) in terms of personal benefit to involvement, and physical, mental and emotional effort (Theme 5) are all important factors to consider at this stage of RPIW preparation. For Theme 5, personal characteristics of participants are important considerations for role selection. The effort applied by the Process Owner, driven by their determination and resilience, was key to maintaining progress of the RPIW following the five-day workshop. The implications for practice are that the participant selection process should firstly include an exploration of individual's emotional connection to the focus of the RPIW and explicitly identifying any personal reward. The assignment of RPIW roles should then be based on an assessment of an individual's confidence in relation to the role being assigned and the personal characteristics required of the role. This study only highlighted the need for an individual with Belbin's (2010) 'completer-finisher' team role characteristics to be assigned the role of Process Owner. There may be scope for further research to explore this relationship in more depth, across the range of RPIW roles and by considering alternative personal effectiveness or personality type tools, for example, Myers Briggs Personality Type (Briggs Myers and Myers, 1995) or the Emotional Competence Framework (Consortium for Research on Emotional Intelligence in Organizations, 1998). Such assessments of personality type or personal characteristics may be undertaken as a self-assessment with support from appropriate staff within an organisation (e.g. organisational development personnel) to match the requirements of the RPIW roles with the outcomes of the assessment tools.

RPIW implementation

The emphasis in the Lean healthcare literature is that support for staff involved in Lean initiatives is provided through adequate training (Al-Balushi et al, 2014; Noori, 2015; White et al, 2017). However, the findings from this study emphasise the significance of emotions related to self (Theme 2) and others (Theme 3) and the value of support from personal relationships rather than knowledge exchange. This was particularly evident for those in lead roles as they experienced feelings of self-doubt, anxiety and fear of failure in the fulfilment of their role. The close emotional ties they formed with one another were a source of both psychological and practical support, particularly during periods of challenge where they feared failure of the RPIW process (Theme 4). Comfort and reassurance from personal relationships engendered confidence in the RPIW role, mitigated fear of failure and

facilitated discretionary effort to offer mutual support in completion of role tasks (Theme 1). As such, the RPIW process was significantly supported by the formation of friendships.

It may be beneficial, therefore, to consider the potential for the formation of personal relationships, particularly between lead participants, during RPIW implementation. In this study, the lead participants developed their personal relationships during their initial Lean Leader training in the pre-workshop period. Where this training is not part of the lead participants RPIW experience, other suitable opportunities should be provided before the five-day workshop for those individuals to develop social bonds.

The Lean healthcare literature expounds the importance of providing staff with protected time to support their involvement in Lean initiatives (Morrow et al, 2014; Noori, 2015; White et al, 2017). What this study highlights is that provision of protected time (in this case to attend the five-day workshop) is insufficient in terms of supporting staff to participate in an RPIW. They struggled with the physical, mental and emotional effort the RPIW demanded (Theme 5). Consideration needs to be given to the management of participants' co-existing responsibilities throughout the entire process. Additionally, the intensity of the mental, physical and emotional effort participants dedicate to an RPIW should be recognised. The implications for practice are that the provision of time for participants to reflect, to make sense of their emotional experience, responses and impact on self, others and the process would be beneficial. With the facilitation and support of appropriate staff within the organisation who have the necessary skills in psychological support, coaching or counselling (e.g. clinical psychologists, mental health clinicians, organisational development personnel, occupational health) this could be achieved. Indeed, the development of a new RPIW role for the purpose of psychological support may be beneficial and ensure appropriate support is incorporated into all RPIWs. Such a role may be termed 'counsellor', for example.

In terms of the format of this support, individual or group sessions could be built into the RPIW timeline as touchpoints throughout the process to provide concomitant psychological support. A key touchpoint would be at the end of the five-day workshop as this was a particularly emotional period for participants, and where descriptions of exhaustion were most significant. In respect of time to provide psychological support, participants found that the first day of the workshop was a "waste of time", and the full day on day five was not utilised. This time could be identified as dedicated time for psychological support and transition before return to normal duties. Such psychological support for staff is familiar within healthcare settings as 'clinical debrief', often provided for staff following difficult or

stressful clinical situations. The suggestion is to transfer a similar model of support to staff participating in RPIWs as part of managing the emotional experience of this process.

RPIW sustainability

Technical, 'how to' guidelines stipulate that one individual is assigned responsibility for the RPIW following the five-day workshop (Lean Health Services, 2018; Miller et al, 2011). In this study, the Process Owner was assigned this role and the emotional impact deferral of responsibility to one individual has on that individual has been revealed. The anxiety they feel and the effort they must exert to maintain progress of the RPIW is significant and challenging for them to sustain (Theme 5).

Additionally, the notion of system vulnerability in this situation is relevant. Complexity theory, which has gained traction in healthcare quality improvement and research over recent years (Long et al, 2018) suggests that designing a system around one co-ordinator leaves the system vulnerable to failure because if that single co-ordinator fails, the whole system fails (Johnson, 2007). The system (RPIW) was vulnerable to potential failure but this was avoided not through application of RPIW processual steps, but through the emotional drive of the Process Owner. The implications for practice are that RPIW role boundaries and the actual or perceived responsibilities associated with each role require review. It may be beneficial to consider assigning more than one Process Owner to an RPIW or ensuring shared responsibility for the entire RPIW across the range of roles, ensuring team members support the Process Owner during the Report Out period.

Importantly, and as is evident in humanistic theories, work can provide employees with a sense of belonging and a purpose. The study findings emphasise the significance of this in relation to the RPIW such that strong emotions of grief, bewilderment and anger are evoked when this anchor and purpose is taken away (Theme 6). As discussed previously, the implications for practice are recognition of this personal, emotional connection to the RPIW and to ensure steps are taken to agree terms of a psychological contract and to emotionally support individuals through changes or breaches of contract.

Theoretical contribution

The conceptual framework for this study was to explore Lean through a 'humanistic' lens, underpinned by Human Relations theory. This is a novel approach for the study of Lean in the healthcare context which, as demonstrated in the literature review, has predominantly been studied through a positivist/post-positivist lens focussing on the effectiveness of Lean improvements, critical success factors and levers of control for Lean implementation. The

centrality of emotion in the operationalisation of Lean principles through an RPIW have been highlighted and suggest that it is the subjective experience of individuals that shape the initiation, progress and sustainability of an RPIW. Human Relations theory proposes such a relationship between social systems and technology. This study contributes to that theory in the context of Lean (RPIW) implementation in healthcare by not only highlighting the need to recognise humanistic factors in the processual (technical) aspects of an RPIW, but to emphasise social systems such as social bonding, feelings about Lean and the RPIW, emotional connection to the work and intrinsic motivation.

A Humanistic Framework for Rapid Process Improvement Workshops

The study findings and implications for practice discussed have been synthesised to develop a conceptual framework that acknowledges the humanistic perspective of RPIWs alongside the published technical, processual 'how to' guidelines for RPIWs (see Figure 1). How these RPIW guidelines and associated technical considerations relate to the study findings in terms of humanistic considerations and the six study themes are depicted in Figure 1 as bracketed numbers.

Two propositions are made through the application of the framework. First, it is proposed that the positive emotions of RPIW participants may be harnessed to facilitate the initiation, progress and sustainability of the RPIW. Second, it is proposed that the emotional well-being of RPIW participants will be recognised and ensured.

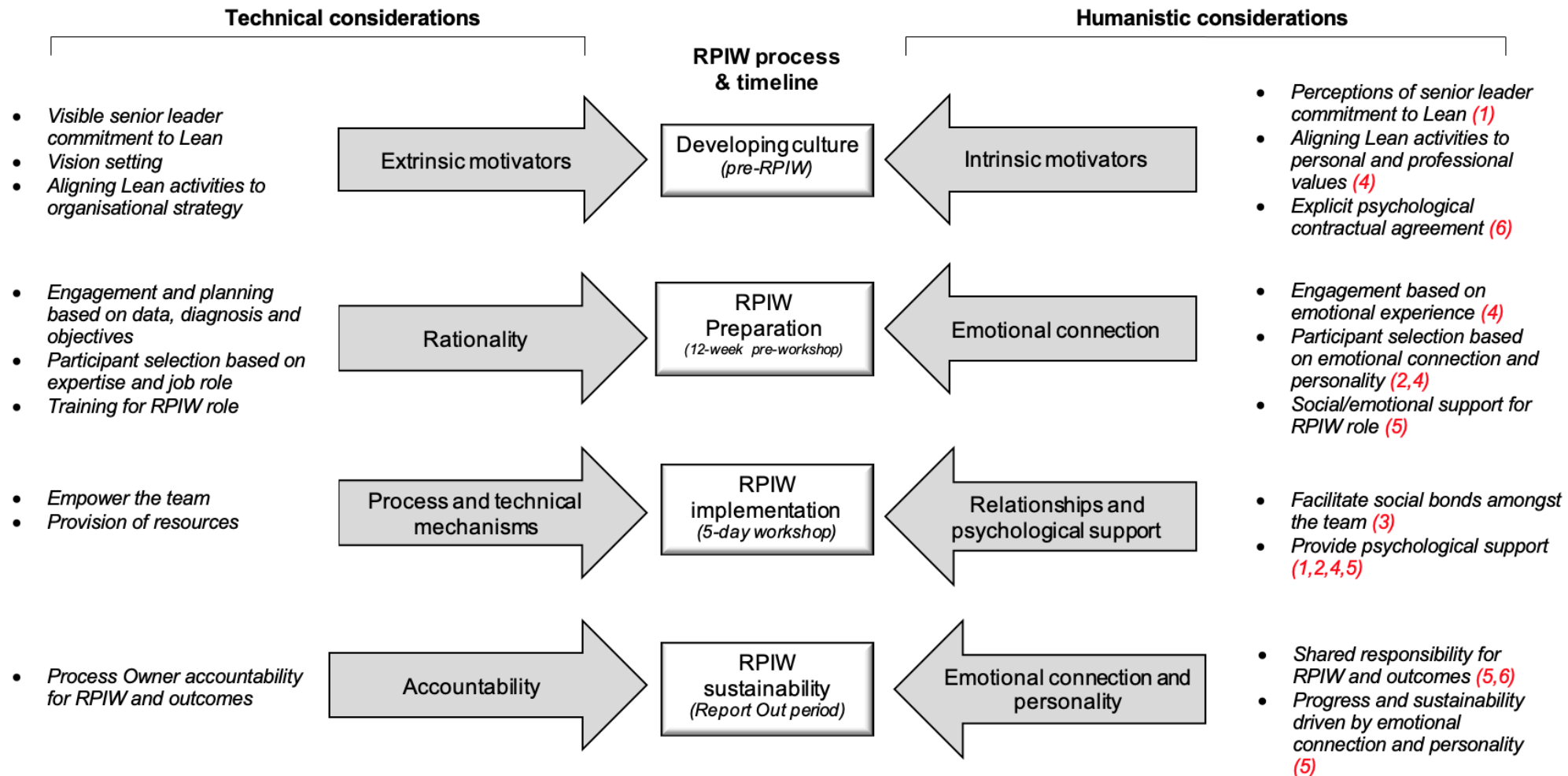


Figure 1 A Humanistic Framework for RPIWs

Conclusion

There are a growing number of publications and reports related to Lean in healthcare as individual organisations and services explore if and how Lean can work for them (Shokri, 2017). Rather than focus on the technical processes, outputs and cognitive appraisal of Lean activities as the extant Lean healthcare literature does, this study has provided novel insight into participants' emotional experience related to the social enactment of Lean through an RPIW. The study findings suggest that it is not adherence to Lean principles and the prescribed steps in an RPIW alone that initiate and sustain the process; participants' emotional experience is fundamental. The proposed 'Humanistic Framework' provides a distinct contribution to current processual guidelines for Lean implementation through an RPIW; it balances the technical with the humanistic aspects. The proposition is, that by recognising the humanistic elements of Lean through the use of this framework, appropriate practical and psychological support for participants may be provided, and longer-term impact and sustainability of RPIWs may be realised.

However, there are caveats and areas for future research in drawing on this proposition. The theoretical perspectives adopted assume a degree of rationality; that the individual attributes emotional experience solely to the RPIW and that the account offered accurately portrays the emotions and reasons for that emotion. It is also assumed that emotional experience is accessible to the researcher through verbal articulation. Other theories of emotion, such as those that draw on psychoanalytical approaches, would refute this claim and instead assume that emotions are unconscious; that deeper exploration of complex, subtle and hidden meaning that lies beneath the surface of visible behaviours and cognitive reflection is required (Strongman, 2003). In terms of method, the RPIW in this case is one of many that have been, or currently are, in existence. Additionally, RPIWs are just one of many Lean tools. The findings of this study are, therefore, related to one, single case embedded within that organisations' context. Further study that draws on alternative theoretical perspectives to explore the emotional experience, and exploration across differing institutional contexts and Lean tools is recommended.

References

Al-Balushi, S., Sohal, A., Singh, P., Al Hajri, A., Al Farsi, Y., Al Abri, R. (2014) 'Readiness factors for lean implementation in healthcare settings – a literature review', *Journal of Health Organization and Management*, 28(2), pp.135-153.

Attride-Stirling, J., (2001) 'Thematic Network Analysis: an analytical tool for qualitative research'. *Qualitative Research*, 1(3), pp.385-405.

Barnas, K. (2011) 'ThedaCare's business performance system: Sustaining continuous daily improvement through hospital management in a lean environment', *Joint Commission Journal on Quality and Patient Safety*, 37(9), pp.387-399.

Beech, J. et al (2019) *Closing The Gap: Key areas for action on the health and care workforce*. Available at: <https://www.kingsfund.org.uk/publications/closing-gap-health-care-workforce> (Accessed: 21 December 2019).

Belbin, M.R. (2010) *Team Roles at Work*. 2nd edition. Oxford: Butterworth-Heinemann.

Bevan, H., Fairman, S. (2014) *The new era in thinking and practice in change and transformation: a call to action for leaders of health and care*. Leeds: NHS Improving Quality.

Bicheno, J. (2008) *The Lean Toolbox for Service Systems*. Buckingham: PICSIE Books.

Bicheno, J., Holweg, M. (2016) *The Lean Toolbox: a handbook for lean transformation*. 5th edition. Buckingham: PICSIE Books.

Bradley, D.K.F., Griffin, M. (2015) 'Staff perceptions of a Productive Community Services implementation: A qualitative interview study', *International Journal of Nursing Studies*, 52, pp.1052-1063.

Brandao de Souza, L. (2009) Trends and Approaches in lean healthcare, *Leadership in Health Services*, 22(2), pp.121-139.

Briggs Myers, I., Myers, P.B. (1995) *Gifts Differing: Understanding Personality Type*. California: Davies-Black Publishing.

Burgess, N., Radnor, Z. (2013) 'Evaluating lean in healthcare', *International Journal of Healthcare Quality Assurance*, 26(3), pp.220-235.

Comer, R., Gould, E., Furnham, A. (2013) *Psychology*. Chichester: John Wiley and Sons Ltd.

Conklin, J. (2006) *Dialogue Mapping: Building Shared Understanding of Wicked Problems*. Chichester: John Wiley and Sons Ltd.

Consortium for Research on Emotional Intelligence in Organizations (1998) *Emotional Competence Framework*. Available at: http://www.eiconsortium.org/reports/emotional_competence_framework.html (Accessed: 30th August 2018).

Conway, N., Briner, R.B. (2005) *Understanding Psychological Contracts at Work: A Critical Evaluation of Theory and Research*. Oxford: Oxford University Press.

- D'Andreanmatteo, A., Lanni, L., Lega, F., Sargiacomo, M. (2015) 'Lean in healthcare: A comprehensive review', *Health Policy*, 119, pp.1197-1209.
- Eaton, M. (2009) *Lean for Practitioners: an introduction to Lean for healthcare organisations*. 2nd edition. Cornwall: Ecademy Press.
- Eriksson, N. (2017) 'Hospital management from a high reliability organizational change perspective: A Swedish case on Lean and Six Sigma', *International Journal of Public Sector Management*, 30(1), pp.67-84.
- Gross, R. (2014) *Themes, Issues and Debates in Psychology*. 4th edition. London: Hodder Education.
- Ham, C., Berwick, D., Dixon, J. (2016) *Improving quality in the English NHS: A strategy for action*. London: The King's Fund.
- Hamilton, J., Verrall, T., Maben, J., Griffiths, P., Avis, K., Baker, G., Teare, G. (2014) 'One size does not fit all: a qualitative content analysis of the importance of existing quality improvement capacity in the implementation of Releasing Time to Care: the Productive Ward in Saskatchewan, Canada', *BMC Health Services Research*, 14, pp.642-656.
- Hasle, P., Nielsen, A., Edwards, K. (2016) 'Application of Lean Manufacturing in Hospitals – the need to consider maturity, complexity, and the value concept', *Human Factors and Ergonomics in Manufacturing and Service Industries*, 26(4), pp.430-442.
- Healthcare Financial Management Association and NHS Improvement (2017) *NHS Efficiency Map*. Available at: <https://www.hfma.org.uk/docs/default-source/publications/nhs-efficiency-map-updated-january-2017.pdf?sfvrsn=0> (Accessed: 29th July 2018).
- Hung, D., Gray, C., Martinez, M., Schmittiel, J., Harrison, M. (2017) 'Acceptance of lean redesigns in primary care: A contextual analysis', *Health Care Management Review*, 42(3), pp.203-212.
- Institute for Healthcare Improvement (2019) *Science of Improvement*. Available at: <http://www.ihl.org/about/Pages/ScienceofImprovement.aspx> (Accessed: 2nd October 2019).
- Johnson, N. (2007) *Simply Complexity: a clear guide to complexity theory*. London: Oneworld Publications.
- Lean Health Services (2018) *What happens in an RPIW*. Available at: <https://leanhealthservices.org/2014/08/31/what-happens-in-an-rpiw/> (Accessed: 17th August 2018).
- Liker, J.K. (1996) *Becoming Lean*. New York: Free Press.
- Lindquist, K.A. (2014) 'What is the underlying structure of emotions? Psychological constructionist approaches to emotion' in Nolen-Hoeksema, S., Fredrickson, B.L., Loftus, G.R, Lutz, C. (eds) *Atkinson and Hilgard's Introduction to Psychology*. 16th edition. Hampshire: Cengage Learning EMEA.
- Long, K.M., McDermott, F., Meadows, G.N. (2018) 'Being pragmatic about healthcare complexity: our experiences applying complexity theory and pragmatism to health services research', *BMC Medicine*, 16, pp.94-102.

Matthias, O. and Buckle, M. (2016) 'Accidental lean – performance improvement in an NHS hospital and reflections on the role of operations strategy', in Radnor, Z., Bateman, N., Esain, A., Kumar, M., Williams, S.J., Upton, D.M. (eds) *Public Services Operation Management: A Research Companion*. London: Routledge.

Miller, J.A., Bogatova, T., Carnohan, B. (2011) *Improving Performance in Service Organisations: How to Implement a Lean Transformation*. Illinois: Lyceum Books Inc.

Morrow, E., Jones, S., Maben, J., Griffiths, P., Robert, G., Wood, V. (2010) *The Productive Ward: Releasing Time to Care Programme. Learning and Impact Review*. Warwick: NHS Institute for Innovation and Improvement.

Morrow, E., Robert, G., Maben, J. (2014) 'Exploring the nature and impact of leadership on the local implementation of The Productive Ward Releasing Time to Care"', *Journal of Health Organization and Management*, 28(2), pp.154-176.

NHS England (2019) *Sustainable Improvement Team: The Change Model Guide*. Available at: <https://www.england.nhs.uk/wp-content/uploads/2018/04/change-model-guide-v5.pdf> (Accessed: 2nd October 2019).

NHS Improvement (2018) *Lean Programme*. Available at: <https://improvement.nhs.uk/resources/lean-programme/> (Accessed: 30th September 2018).

NHS Improving Quality (2014) *First Steps Towards Quality Improvement: A simple guide to improving services*. Leeds: NHS Improving Quality.

Noori, B. (2015) 'Identifying Critical Issues in Lean Implementation in Hospitals', *Hospital Topics*, 92(2), pp.44-52.

Papadopoulos, T., Radnor, Z., Merali, Y. (2011) The role of actor associations in understanding the implementation of Lean thinking in healthcare, *International Journal of Operations and Production Management*, 31(1-2), pp.167-191.

Poksinska, B. (2010) 'The Current State of Lean Implementation in Health Care: Literature Review', *Quality Management in Health Care*, 19(4), pp.319-329.

Radnor, Z., Holweg, M., Waring, J. (2012) 'Lean in healthcare: The unfilled promise?', *Social science and medicine*, 74(3), pp.364-371.

Radnor, Z., Walley, P., Stephens, A., Bucci, G. (2006) *Evaluation of the Lean Approach to Business Management and its use in the Public Sector*. Edinburgh: Scottish Executive Social Research.

Richards, L., Morse, J.M. (2013) *README FIRST For a User's Guide to Qualitative Methods*. 3rd edition. London: Sage Publications Ltd.

Rousseau, D.M., Greller, M. (1994) 'Human Resource Practices: Administrative Contract Makers', *Human Resource Management*, 33, pp.385-401.

Rustin, M. (2009) 'The Missing Dimension: Emotions in the Social Sciences' in Sclater, S.D., Jones, D.W., Price, H., Yates, C. (eds.) *Emotion: New Psychosocial Perspectives*. Basingstoke: Palgrave Macmillan.

Seddon, J. (2005) *Freedom from Command and Control: A Better Way to Make the Work Work: The Toyota System for Service Organisations*. Buckinghamshire: Vanguard Consulting Ltd.

Shokri, A. (2017) 'Quantitative analysis of Six Sigma, Lean and Lean Six Sigma research publications in last two decades', *International Journal of Quality and Reliability Management*, 34(5), pp.598-625.

Smith, G., Poteat-Godwin, A., Harrison, L., Randolph, G. (2012) 'Applying lean principles and kaizen rapid improvement events in public health practice', *Journal of Public Health Management and Practice*, 18(1), pp.52-54.

Stapleton, T. (2014) 'Dasein as being-in-the-world' in Davis, B. (ed.) *Martin Heidegger: Key Concepts*. Oxon: Routledge.

Strongman, K.T. (2003) *The Psychology of Emotion: From Everyday Life to Theory*. Chichester: John Wiley and Sons Ltd.

Taylor, F. (1911) *Scientific Management comprising Shop Management, the Principles of Scientific Management (and) Testimony before the Special House Committee*. Reprint. Connecticut: Greenwood Press, 1972.

Taylor, S. (2019) *A Phenomenological and Symbolic Interactionist case study into the emotional experience of Lean: as experienced through a Rapid Process Improvement Workshop in an English Foundation Trust Hospital*. Unpublished PhD thesis. Teesside University.

The Health Foundation (2011) *Evidence Scan: Improvement Science*. London: The Health Foundation.

Trist, E.L., Bamforth, K.W. (1951) 'Some Social and Psychological Consequences of the Longwall Method of Coal-Getting: An Examination of the Psychological Situation and Defences of a Work Group in Relation to the Social Structure and Technological Content of the Work System', *Human Relations*, 4(1), pp.3-38.

Turner, J.H., Stets, J.E. (2005) *The Sociology of Emotions*. Cambridge: Cambridge University Press.

van Grinsven, M., Sturdy, A., & Heusinkveld, S. (2019) 'Identities in translation: Management concepts as means and outcomes of identity work', *Organization Studies*, <https://doi.org/10.1177/0170840619866490>.

White, M., Butterworth, T., Wells, J. (2017) 'Reported implementation lessons from a national quality improvement initiative; Productive Ward: Releasing Time to Care. A qualitative, ward-based team perspective', *Journal of Nursing Management*, 25, pp.519-530.

Williams, J. (2012) 'Symbolic Interactionism' in Given, L. (ed.) *The SAGE Encyclopaedia of Qualitative Research Methods*. Thousand Oaks: Sage Publications Inc. Available at: <http://sk.sagepub.com/reference/research> (Accessed: 15th November 2017).

Womack, J.P., Jones, D.T. (2003) *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*. London: Simon and Schuster Ltd.

Wren, D.A. (1994) *The Evolution of Management Thought*. 4th edition. Chichester: Wiley.