Lean and person-centred care: are they at odds?

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Abstract
Lean in healthcare continues to be a popular approach to improvement. However, some efforts have not always produced the benefits expected. This has led to closer investigations of the translation of lean to healthcare. As person-centred-care becomes a key focus, this paper explores how lean might contribute to this endeavour.

Keywords: Lean, person-centred care, healthcare

Introduction
Globally, healthcare systems continue to feel the pressures of rising costs and increasing demand for services. Many have referred to this as a triple challenge, as organisation struggle to cope with demographic pressures, a changing burden of disease, and rising patient and public expectations. Austerity measures mean services need to be delivered with the same or less resources. It is therefore clear, that practices need to change in order for these challenges to be met. There are a number of technologies that have been introduced that are changing the landscape of healthcare. However, what is often unclear is how different technologies can be aligned to ensure that the improvement is maximised and the possibility of sub-optimising parts of the healthcare system is avoided.

This paper examines two popular approaches, referred to here as technologies, in healthcare: lean thinking and person-centred care (PCC). Both have been introduced in order to improve healthcare services and ultimately to improve patient experience. A recent article by Kelly (2013) suggests that person-centred care and lean are competing technologies and will not have the desired benefits. The aims of this conceptual study are to explore the similarities and differences between these technologies and, for the first time, to provide a framework which demonstrates how lean can contribute to the delivery of PCC.

The remainder of the paper is organised as follows. The next section provides an overview of quality improvement in healthcare. This is followed by a brief review of the origins and key principles of lean and PPC. The similarities and differences between these two technologies are identified. The paper culminates with a conceptual model that illustrates how lean can contribute to the delivery of PCC and recommendations for further research.

Quality improvement and healthcare
Quality improvement (QI) in healthcare can be described as better meeting the needs of the
customer (Blumenthal and Kilo, 1998; Shortell et al., 1998), by focusing on work processes and systems. Berwick (1989) states that real change can only be achieved by changing the system. QI has been widely adopted in healthcare, particularly in hospitals (Brennan et al., 2009). An early review of QI literature in healthcare found the determinants of success included participation of clinicians, provision of feedback to individual clinicians and a supporting organisation culture. The determinants that led to failure were described as topics/areas chosen (e.g. heart failure, COPD and depression led to many implementation problems), disagreement with national guidelines on best practice and vague feedback (Shortell et al., 1998). Interestingly, the determinants of failure are mainly related to the infrastructure required to support QI rather than the approach itself (Grol et al., 2013).

Healthcare, like other industries, has seen an array of QI approaches, also referred to here as technologies, being introduced to try and improve the systems and process which support the delivery of healthcare. Such technologies include lean thinking, six sigma, lean six sigma and theory of constraints. QI in healthcare requires the reconciliation of a number of concerns/values: efficiency, standardisation and patient-centred care. To date QI efforts have privileged the first two as evidenced by the growing use of Lean and evidence-based practice. One of the more contentious issues which has emerged in the light of these developments is how far such approaches can accommodate individual needs (PCC) and at what points standards should be modified according to professional judgement. The focus of this paper is on lean thinking and explores whether this approach is at odds with the delivery of PCC as argued by Kelly (2013).

**Lean in healthcare**

Since 2001 in the UK and 2002 in the USA (Radnor and Osborne, 2013) Lean thinking is one of the improvement methodologies that has become a prominent and popular approach in reforming healthcare services. This popularity is confirmed by the publication of over 90 academic writings in ten different countries since its inception in 2001 (Brandao de Souza, 2009). This growth in interest is associated with the “double focus of Lean on customer satisfaction and employee involvement suits the culture of most care centres”. Other similarities between lean and healthcare are the focus on customers, quality, safety, and staff (Bohmer and Ferlins, 2006, p. 4).

Despite the popularity of lean, some authors believe lean implementation to be pragmatic, patchy and fragmented (e.g. Proudlove et al., 2008; Young and McClean, 2008). Burgess and Radnor’s (2013) recent evaluation of lean in English NHS Trust found implementation tended to be isolated rather than system-wide but overtime the use of lean in increasing and progressing more to Trusts’ adopting a systemic approach.

Shah and Ward (2007) report, despite being a plethora of academic and practitioner writings, there is still no confirmed definition of Lean. Womack and Jones (1996) helpfully define five key principles of lean. The first focuses on understanding value from the perspective of the customer. The second involves defining the value streams or processes that will add and deliver value to the customer. The third involves making the processes flow without any delays or interruptions. The fourth emphasises the need for products or services to be pulled at the demand or need of the customer. The final principle is concerned with continuous improvement and the need for organisations to strive for perfection. These principles are often adapted for healthcare by combining principles three and four and including an additional principle which focuses on the empowerment of staff. Alternatively, Toussaint and Gerard (2010) translate these principles for healthcare as: (1) focus on the patient; (2) design care around the patient; (3)
identify value for the patient; (4) remove everything else (waste); (5) reduce time to treatment and the remainder of the journey. Radnor et al., (2012) emphasise the key assumptions of lean (see table 1) and suggest without these Lean is likely to fail. Similarly, Joosten et al (2009) report how the emphasis, particularly for lean in healthcare, has been process-oriented and little attention has been paid to the socio-technical aspects and ‘respect-for-humans-system’.

Table 1. Key assumptions of Lean thinking

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Description</th>
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<tr>
<td>Defining value and waste from the perspective of the customer (patient)</td>
<td>or end user</td>
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<tr>
<td>Creating value by either reducing non-value adding activities or increasing</td>
<td>value adding activities at no extra cost</td>
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<tr>
<td>Appreciating there is defined and measurable benefits to the organisation</td>
<td></td>
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<tr>
<td>Freeing up resources that can help to continue to improve processes</td>
<td></td>
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<tr>
<td>Understanding the ‘heart’ of Lean is the concept of customer value</td>
<td></td>
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<tr>
<td>Ensuring the main focus remains on quality and safety rather than on cost</td>
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Adapted from Radnor and Osborne (2013:4)

**Person-centred care**

Person-centred care (PCC) is becoming a popular concept that has exerted considerable influence on policy makers, practitioners and academics (McCormack, 2004). Interestingly, like lean, it is a concept that is ill-defined and varying terms such as client, patient, person-centred care appear to be used interchangeably. Nay et al., (2000) predicted client-centredness would be the ‘watchword’ for quality care in the twenty-first century. This insight was a result of the global trends associated with gerontic nursing and the new approaches to working with older people in various health and social care environments, including long-term care (Henderson and Vesperi, 1995), rehabilitation (Nolan et al., 1997), learning disability (Williams and Grant, 1998) and dementia care (Kitwood, 1997). It was the latter area that provided a new sense of direction and purpose for practitioners.

The Health Foundation (2014) in the UK has recently published a timeline for PCC, which attributes the term patient-centred to the works of the American psychologist, Carl Rogers. Other key contributions to PCC include in the late 1980s the establishment of the Foundation of Informed Decision Making in the US followed by the Chronic Care Model which promoted the need for a proactive approach to healthcare, the basis of the Health Foundation’s co-creation programme (Health Foundation, 2014). To bring some clarity to PCC several models have been developed which focus on person-centred nursing. For example, McCormack (2004) identifies four core components of person-centred nursing:

1. **Relationships** – the relationship between the nurse and patient is critical for successful outcomes.
2. **Social world** – the ability to adapt the context of care to create a caring environment that fits the needs of the person.
3. **Place** – the need to evaluate the environment and how this needs to be adapted to deliver person-centred care, not just the physical space and artefacts, but also softer elements such as systems of decision-making, staff relationships, organizational systems, power differentials and the potential of the organization to tolerate innovate practices and risk taking.
4. **Self** – respect for values is integral to person-centred care.
Later McCormack and McCance (2006) develop these components further to form a person-centred nursing framework which again comprises of four elements. The first refers to the *prerequisites* of the nurse, which include professional competence, commitment to practice and clarity of beliefs and values. The second element is described as the *care environment*, which focuses on skill mix, effective staff relationships, shared decision making and supportive organisational structures and work systems. Third element of the framework is *person-centred processes* which operationalise person-centred nursing including such activities as understanding patient values, engagement, shared decision making and provision of physical needs. The final element of the framework is related to *outcomes*. This is the articulation of expected outcomes from person-centred nursing. McCormack (2004) notes the complexity of person-centred care and the need for nurses to shift beyond technical competence to authentic humanistic nursing practices. Understanding value is integral to person-centred care but pressures of every day nursing may not allow this approach to prevail. Hence, some doubt if PCC can be achieved and question whether it’s simply an evangelical notion (Packer, 2000).

**Lean and person-centred care**

In a recent article, Kelly (2013) argues that lean does not support person-centred care. He quotes the work of Parker and Slaughter (1988) where lean is described as “management by stress”. Kelly refers to lean in healthcare being driven by a relentless need for improvement which is delivered by less and less staff, which can ultimately result in burnout. He goes on to say that healthcare staff have to try and reconcile the need to deliver high quality care with corporate efficiency targets often associated with lean improvement programmes. Similarly, Seddon (2010) also warns of the human cost which can manifest itself in chronic low morale. Kelly (2013) warns the austerity pressures within the global economy are likely to encourage more organisations to pursue lean as a way of gaining efficiencies.

It is this focus on efficiency alone that is at odds with the improvement agenda. Lean was originally introduced as an approach to quality improvement. It can provide cost savings but should not do so at the expense of safety and quality. Of course, when times of austerity the urgency in which to demonstrate these savings is much greater. The need to view lean (and other approaches to improvement) as a philosophy, a way of doing things, must not be lost otherwise healthcare is in danger of making mistakes similar to organisations in other industries. There is a need to build improvement capability and capacity within organisations and this means when freeing up time that this is reinvested in improvement and does not result in removing people from the organisation. Womack and Jones (1996) were very clear in their writings around lean, in that it should not be used as a mechanism for downsizing and any reduction in staff should take place before lean is implemented. They recognised that most organisations would need to build their capability within improvement tools and as non-value adding activities are removed and processes redesigned then the resources must be re-invested in future improvement programmes.

To assess whether Lean can make a positive contribution to the growing movement of patient-centred care it is useful to establish the similarities and differences between these two technologies. To do so, the key principles and approaches associated with lean are examined in relation to PCC.

**Value**

As noted above, the interest in understanding value from the perspective of the patient is growing
in healthcare. The use of patient experience is being embraced into the formal structures of healthcare organisations. Understanding value is the starting point for a lean transformation and is at the heart of PCC. Mechanisms such as direct observation, shared decision-making and patient stories are employed to try and to get an understanding of what it feels like to be a patient (Fillingham, 2007). As a result it is possible to identify causes of delay, rework and other non-value adding activities (waste).

Value stream/ Patient pathway
A value stream can be defined as “the set of all the specific actions required to bring a specific product (good or service) through the three critical management tasks of any business: the problem solving task; the information management task; and the physical transformation task” (Womack and Jones, 2003:19). In healthcare terms this can be translated to the design of pathways which aims to “map out the patient journey and aim to have the right people, doing the right things, in the right order, at the right time, in the right place, with the right outcome”, a definition of a [integrated] care pathway (NIALH, 2005). Pathways have been described as having a positive effect for patients in relation to improved quality of care and their involvement within their care (Wensing et al., 2013). Interestingly, Toussaint and Gerard (2010) translate this second principle as designing services around the patient which is the akin to PCC.

Flow
Smooth and seamless flow of patients should be a primary goal for any healthcare system (Graban, 2009). There are many reasons for delays and interruptions and PPC will also be subjected to such problems. The removal of non-value adding activities will help to provide the care environment and person-centred processes required to support person-centred nursing. Lean improvement tools and techniques should not only focus on the flow of patients, but also on information and material flows.

Pull
In healthcare this principle can be interpreted in two ways. First there is the concept of ‘pulling’ the customer or patient to the next step in the process/pathway (e.g. a patient after surgery being ‘pulled’ from the theatre into a recovery bay). Second is where a patient ‘pulls’ the necessary resources required for a safe and timely diagnosis and treatment (e.g. Emergency Department). It is the latter explanation that is more aligned to the requirements of PCC.

Perfection
Creating value and eliminating waste in order to achieve the ideal process or pathway should become part of the organisational culture. Lean becomes the underlying philosophy of the organisation which supports the continual drive for improvement.

Standardisation
Not a key principle but a core practice of lean, the standardisation of working methods and quality specifications of a product or service, can be interpreted as the elimination of unnecessary diversity that cause waste. It can sometimes be difficult to separate necessary diversity away from unnecessary diversity. Saurin et al., (2013) propose there are instances in healthcare when the natural diversity of methods is needed in order to deal with the difference between patients and the flexibility required to deliver PCC (Joosten et al, 2009). It is important to note standardisation is usually associated with the reduction of unanticipated variability. Yet there
may be instances where human performance variability cannot or should not be eliminated. For example, the unpredictable environment of the Emergency Department, particularly for patients with a combination of conditions, then flexibility is required to respond to the unpredictability (Saurin et al., 2013). Interestingly, lean writings around developing skills to deal with the unexpected have not been discussed. In manufacturing it could be argued there is less need for this, but within some healthcare environments the unexpected can occur frequently and therefore systems need to be place to deal with ambiguity often experienced under severe pressure. Hence, there is a need to develop resilient teams which are able to cope with the uncertainty and complexity needed to deliver safe and flexible care. This is not to say that all PCC will fit within this remit. However, there is a need to re-examine how organisations had adopted lean within healthcare organisations and to see what elements of patient pathways are suitable to standardisation and which require a greater degree of flexibility to provide customised or person-centred care.

Kelly (2013) makes some interesting observations about the use of standardisation within healthcare. First, making reference to unwanted variation in healthcare processes, he refers to the introduction of inflexible tools such as checklists and scripted procedures and whilst acknowledging the safety benefits he argues that requirements of PCC are about treating everyone differently.

It is evident for some pathways standardised processes will ensure that patients receive the care that is needed. However, other parts of the pathway may well need a greater degree of flexibility. Allen et al (2009) caution that a ‘one size fits all’ approach to the design of [integrated] pathways may not be appropriate for all medical conditions, particularly those that are unpredictable in terms of the trajectory of care.

**Lean and PCC - Are they at odds?**

As a result of reviewing the key principles of lean and PCC it is possible to draw some similarities (table 2) and differences (table 3) between these two technologies. It is possible to translate the key five principles of lean to the delivery of PCC. However, the areas that are perhaps at odds are value analysis, use of standardisation, focus on the human-dimension and the starting point.

*Table 2. Similarities between Lean and PCC*

<table>
<thead>
<tr>
<th>Lean</th>
<th>Person-centred care</th>
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<tbody>
<tr>
<td>Understanding <em>value</em> from the end-consumer’s perspective is central to lean</td>
<td><em>Patient experience</em> and <em>shared decision-making</em> are mechanisms integral to PCC.</td>
</tr>
<tr>
<td>Defining the <em>value stream</em> to add and deliver value to the end-consumer</td>
<td>Clarity of the <em>patient pathway</em> and trajectory of care will enhance shared decision-making and person-centredness</td>
</tr>
<tr>
<td>To improve the <em>flow</em> of patients, information and materials</td>
<td>To improve the <em>flow</em> of resources, information and materials to the patient</td>
</tr>
<tr>
<td>To ‘pull’ the patient to the next step in the process/pathway or for a patient to ‘pull’ the necessary resources</td>
<td>To ‘pull’ resources to the patient</td>
</tr>
<tr>
<td>To continually improve the performance of the healthcare system in pursuit of <em>perfection</em></td>
<td>To continually improve the performance of the healthcare system in pursuit of <em>perfection</em></td>
</tr>
<tr>
<td>Lean</td>
<td>Person-centred care</td>
</tr>
<tr>
<td>------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Value is considered mainly from the perspective of the end-consumer</td>
<td>Value is considered in a wider context including patient, staff, and social values.</td>
</tr>
<tr>
<td>The emphasis of Lean is on improving processes and limited attention has been paid to socio-technical aspects</td>
<td>PCC is focused on people – patients and staff</td>
</tr>
<tr>
<td>First principle is to understand value</td>
<td>Prerequisite stage to assess professional competence, commitment to practice and clarity of beliefs and values.</td>
</tr>
<tr>
<td>Standardisation of processes to deliver safe and reliable care (includes mechanisms such as standard operating procedures, check lists)</td>
<td>Standardisation often seen to stifle flexibility and the delivery of individualised (person-centred) care.</td>
</tr>
</tbody>
</table>

The conceptual framework in figure 1 integrates the synergistic components of lean and PCC as discussed in this paper to demonstrate how lean may contribute to the delivery of PCC. The framework builds upon McCormack and McCance’s (2006) person-centred nursing framework and Womack and Jones’ (1996) five key principles of lean. The framework attempts to neutralise the terminology so that it is accessible to managers and healthcare professionals. It is evident that understanding value is a key element of PCC. The key focus of lean improvement programmes is often understanding value from the perspective of the end consumer/patient. In addition to patients there are often carers, relatives and advocates that can add to the richness to that value creation. Mechanisms such patient stories are being used to capture experiences. How these are then being employed to inform and improve the design of services and pathways still needs further investigation. The framework has been developed within a generic healthcare context. Further analysis is required to understand the nuances of different medical conditions. Similarly, the debate around standardisation of processes in healthcare needs further examination and empirical data to demonstrate clinical areas where it works well and examples where it has been problematic.

**Conclusion**

Lean and person-centred care are technologies that are growing in popularity within global healthcare systems. Some scholars believe that these are competing technologies and when both employed are unlikely to improve patient care and outcomes to the desired level. From the analysis of existing principles and practices it is evident similarities exist. However, there are some elements, such as standardisation, that need to be carefully reviewed in relation to the design of pathways and delivery of PCC. The conceptual model presented here draws together what practitioners need to consider when using lean to help deliver PCC. This research is limited due to the lack of empirical data. Studies are needed to test this conceptual model within and across various pathways and healthcare settings. Issues surrounding complexity of pathway design also require further analysis and consideration. Alternative technologies such as agile and leagile (see for example Naim and Gosling, 2011), which have been employed within the design of value streams, could assist in creating the flexibility and customisation of pathways to deliver some medical conditions.
This paper has taken technologies from two different disciplines: operations management and healthcare. For academics working across disciplines there are always going to be challenges in relation to the language. Opportunities for learning need to be pursued with openness and fortitude. Working beyond terminology and narrative often identifies areas of synergy and common understanding. If such opportunities are placed within the context of improvement for the end consumer or in this case the patient, it might be easier to blur those academic boundaries in the same way we are seeking in those working across professional boundaries and committing to multi-professionalism needed to deliver person-centred care.
References


