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TITLE

Innovation and Sustainability in Large-Scale Healthcare Improvement Collaborative – Seven Propositions for Achieving System-wide Innovation and Sustainability

ABSTRACT:

Change and reform in the Healthcare system, and policy determination to reduce costs has now necessitated a rethink and more innovation for this sector. In the healthcare sector, leadership needs to strengthen professionals who have the dual responsibility for ensuring the quality and effectiveness of healthcare and this requires new organisational forms beyond the traditional hierarchical organisational structures. Drawing upon strategic management and leadership discourse to underpin the study into sustainable and high performing systems, we then look at seven key lessons (propositions) from a mixed-methods study of a live city-wide large-scale collaborative in Leeds, UK. These seven propositions are framed in the context of leadership and strategy, however interesting and emergent findings also emerged as a result of the study. We thereby illuminate the challenges and opportunities to the collaboratives development in the context of global government calls for better healthcare management within the sector. We found that in the sustainability of such collaboratives, requires a more effective structure could be local city-wide collaborative in contrast to national or regional collaborative, however there are also several unknowns in such novel organisational structures. The shared and distributive form of leadership is underpinned with an energetic strategic leader who holds the centre whilst inspiring and empowering the collective nature of all members. This is also effectively achieved through promotion of a professional culture that is sustained through structured organisational learning. This paper adds to the small but growing body of knowledge in Improvement Collaboratives in the Health sector.

1. Introduction and Background

Globally, there have been new developments in healthcare management, with spending in healthcare becoming increasingly important. This is reflected in higher spending around the world and is expected to accelerate, rising to an average of 5.2 percent per year in 2014-2018, to $9.3 trillion (The Economist Intelligence Unit. 2014). The United Kingdom demonstrates the strongest performance overall among the 11 nations studied in a report for The Commonwealth Fund and was ranked first overall apart from a lag on health outcomes (The Commonwealth Fund. 2014). Conversely, the U.S.A may have the most expensive healthcare system in the world, yet it ranks lowest on indicators of efficiency, equity, and outcomes. Considering the total budget for the National Health Service in England for 2014/15 was £113.3 billion, The Kings Fund (2014) noted how in 2015/16 this is planned to rise to £116.4 billion The National Health Service (NHS) is facing considerable funding challenges and therefore issues of innovation in health systems is increasingly being seen as a way to address some of these challenges (Doyle, Howe et al. 2013).

As a way of addressing the shortfall in UK healthcare outcomes, the Leeds Institute for Quality Healthcare (LIQH) was designed by leaders in the city of Leeds, England from across all the provider and commissioner organisations, to secure better quality care with and for patients. The city of Leeds is located about 200 miles from London and is a well established centre for legal and financial services. The LIQH was set up with an overarching aim and objective to secure improvement in quality care by enabling clinicians to develop shared expertise in innovation and improvement and developing a rigorous approach to professional accountability using data to review variation and decision-making (http://www.leedsqualityhealthcare.org.uk). This focus creates a culture of best quality clinical care at the best value, with patients, service users and carers as partners in decision-making, across Leeds. The LIQH collaborative aims to secure this improvement through a number of mechanisms including provision of support for system-wide leadership; prototyping change across a patient's journey which is supported by professional leadership and change programmes; spreading capability in systems change, improvement and coproduction across teams. LIQH is also developing data processes that support clinical decision-making with service users and carers, and provides data capacity across the city of Leeds. It supports learning through two leadership and change programmes: an Advanced Professional Leadership Programme for senior leaders in the City and

through Professional Leadership and Change Programmes, with each annually focusing on chosen clinical priorities. LIQH is effectively a network generating its own priorities through member engagement, and using network technologies to share and spread knowledge.

2. Characteristics of high performing health systems

Within the context of current reforms and ever-complex care issues that transcend organisational boundaries, the NHS is compelled to adapt to new ways of organising and operating in order to meet the unique demands placed upon it (Dhillon 2013, Doyle, Howe et al. 2013). Significant change and reform in the UK Healthcare system has now necessitated a rethink from observers about the need for more innovation for this sector (Doyle, Howe et al. 2013). This is evidenced through, for instance, the manner in which multi-organisational quality improvement collaborative networks are being proffered as a solution for improving quality within the healthcare sector (Dainty, Scales et al. 2013). Observers (Plsek and Wilson 2001) historically point to the fallibility of disparate budgets and performance targets across primary, secondary and tertiary care because of a tendency for having an inward operational focus on system elements rather than the systems' higher level functioning. However a shift towards more collective and networked models of institutional innovation is becoming notable (Hargrave and Van de Ven 2006, Bandeira Rodrigues, dos Santos Silva et al. 2014, Long, Cunningham et al. 2014).

A renewed focus on integration and collaboration through the development of integrated health care is at the forefront of recent innovations (Ahgren and Axelsson 2011) including large-scale improvement collaboratives such as Collaboration in Leadership for Applied Health Research and Care (CLAHRC) (Baker, Robertson et al. 2009, Hanbury, Thompson et al. 2010, Harvey, Fitzgerald et al. 2011, Rowley, Morriss et al. 2012, Doyle, Howe et al. 2013, Evans and Scarbrough 2014), the Leeds Institute for Quality Healthcare (Mervyn and Amoo 2014) and the New Vanguards which are providing a test bed for the redesign of the NHS and deeper integration of services (Berry 2015). Twenty nine Vanguard sites have been selected by the NHS in England with a view to adopting new and enhanced models of integrated healthcare. Pre-selected geographical areas will test the innovations through the development of new care models suggested in NHS England's Five Year Forward View (Iacobucci 2015).

Three overarching levels are at the heart of such high performing healthcare systems: Leadership and Strategy; Organizational Design, and Improvement Capabilities (Baker and Denis 2011). Whilst we recognise all three levels, we are specifically interested in Leadership and Strategy in the present study. Quality and system improvement as a core strategy is seen as one of the most significant attributes of a high performing healthcare system (Baker and Denis 2011). Underlying this is support for the core strategies and objectives of large scaled collaboratives to include care quality improvement, development of cultures of learning and operationalisation of health improvement methodologies.

Globally, health care systems are focusing attention and resources on the development of leaders at different scales who can work in novel, fluid and more innovative ways (Øvretveit and Klazinga 2013). An international evaluation of five health care systems pointed to decisive strategies and investments that influenced their successful outcomes, one strategy of which related to consistent leadership '*that embraced common goals and aligned activities throughout the organisation*' (Baker, 2011: 13). On another plane, 'Promoting professional cultures that support teamwork, continuous improvement and patient engagement' is seen as essential for high performing collaborative systems (Baker, 2011: p.13). Through Buchanan and colleagues, (2007) a leadership balance was found within the five systems which was both robust as well as distributed and shared (Baker, 2011). The level of resource and support provided between a broader health care system and culture could help or perhaps also hinder improvement collaboratives, therefore using a local context could be advantageous if the support and resources are available (Timmerman, Verrall et al. 2010). Conversely, being larger can be a challenge in that trying to represent everyone may result in actions that are not relevant to all parties [...] (Brown et al., 2013: p.3). It is argued that Quality Improvement (QI) initiatives, in a similar vein to other forms of organisational innovation, '…will fail unless they are conceived and implemented in such a way as to take into account the pattern of interests, values and power relationships that surround them' (Langley and Denis 2011: n.p). Anticipated changes to be enacted through scaled improvement may be challenging but must be balanced with a degree of realism, should involve stakeholders from provider organisations across all levels and society including patients and carers including when planning for sustainability, and require prior experience and competencies of

managing change and with improvement methods in general (Øvretveit and Klazinga 2013).

According to observers, 'The rapidly changing environment for organizations, the global marketplace, and sweeping social and political change make organizational learning essential for survival' (Brockbank, McGill et al. 2002: p.15). The implication here is that organisations need to effectively implement change in order to evolve. Hence it is suggested that to do so, it is important to start by working on smaller or localised practices within the organization and growing it to meet the bigger organizational and system-wide improvements. In terms of pace, quality initiatives need time to bed-in and develop, as "Few quality initiatives yield breakthrough results in short timeframes" (Baker and Denis 2011: 14). This requires taking a long term perspective which takes a sustained and calculated focus on both quality and services (Baker 2011). However, impact is increasingly being realised as a result of sustained efforts into improved care (Baker 2011, Baker and Denis 2011). Studies have shown that the most successful types of inter-organizational collaborations are those where grounded and stable multidisciplinary teams have been long established and maintained over time (Axelsson and Axelsson 2006), for instance as noted through success of integrated health care in Sweden (Ahgren and Axelsson 2011). From a collaborative partnerships standpoint, managers must be willing to relinquish aspects of their territory and show more awareness and concern across organisations and society (Axelsson and Axelsson 2009) – thus creating a greater common purpose. Clarification of organisational purpose is a commonly attributed feature across all systems deemed as high performing (Vaill 1982).

Not discounting the cross-terminology of change management, change leadership and change agency (Gill 2002, Buchanan, Addicott et al.,2007), healthcare reform and development of more innovative models for improvement are heavily influenced by having the relevant project management systems and capabilities in place (Lannon and Peterson 2013, Øvretveit and Klazinga 2013). Change management practices are an essential ingredient in the context of health care reforms through its main focus on the human resource (Bamford and Daniel 2005). Change agents in healthcare networks seek to achieve broader appeal, acceptance and support for organisational change through new health care practices (Battilana and Casciaro 2012). Balancing stakeholder perceptions is also seen as critical to the success of the implementation of innovations and change. Opponents to change are of particular importance in the

context of collaboratives for improvement and should be treated as such (Ford, Ford et al. 2008), because dissenting voices must be embraced rather than resisted if the collaborative is to succeed (Ford and Ford 2010). Sometimes these dissenting voices might be our only source of preventing a crisis during change management, in particularly in such not-for-profit organisations formal crisis management should not be neglected (Spillan, 2002; 2003).

The main purpose of this work is thus to propose seven key propositions that have emerged from the role that LIQH is playing in the development of Leeds as a high performing healthcare system. These seven propositions are framed in the context of leadership and strategy; organisational design and improvement capabilities, however interesting and emergent findings also emerged as a result of the study. We thereby illuminate the challenges and opportunities to LIQH's development. In summary, we undertake the following:

- Illustrate how a large-scaled collaborative in the form of LIQH's network can provide a better approach to improving quality than other approaches;
- Differentiate the role of leadership and the role of a leader and describe leadership activities that embrace common goals and align activities throughout the organization;
- Explore how the LIQH programme is directly challenging the assumptions and beliefs on participants on how they lead and on their leadership principles and how LIQH is facilitating this;
- Illuminate the importance of primary care teams at the centre of the delivery system;
- Identify the mechanisms for more effective integration of care that promotes seamless care transitions;
- Denote how LIQH is developing a culture of learning and subsequently providing an enabling environment for innovations to flourish;
- Illuminate organizational capacities and skills to support performance improvement;
- Argue for the importance of effective learning strategies and methods to test and scale up.

3. Theoretical Framework

Over the six decades, a large body of research has focused on the strategy performance relationship (Ansoff, et al. 1970, Thune and House 1970, Goll and Rasheed 1997, Brews and Hunt 1999, Grant 2003, Whittington and Cailluet 2008). The results of these studies have been mixed with many inconsistencies and counterintuitive findings (Pearce, Freeman et al. 1987, Brews and Hunt 1999). These inconsistencies have even led some writers to reject formal planning as the 'one' best way to plan (Mintzberg 1994a). One of the arguments that have been put forth about these findings in the strategy performance relationship had been the neglect of strategy implementation (Miller and Cardinal 1994, Brews and Hunt 1999, Phillips and Moutinho 2000, Hrebiniak 2005, Hrebiniak 2006, Whittington and Cailluet 2008). This trend even is found where much space is still given to more recent publications on strategy management and strategy processes (c.f. Belmondo and Sargis-Roussel 2015; Paroutis, Franco et al. 2015; Thomas and Ambrosini 2015) and these papers tend to look more at the strategy formation and strategy development and not much in putting the strategy into action (strategy implementation). So it is now accepted in the management literature that the most sophisticated plans, if not put into action; result in the status quo (Heracleous 2000); an example Hambrick and Cannella (1989: p.278) stated that, "*Without successful implementation, a strategy (plan) is but a fantasy*".

In more recent literature we now not only talk about the importance of strategy implementation, but it now behoves us to consider the sustainability of whatever had been implementation and so the question of sustainability strategic management is much on the agenda of both researchers and practitioners. That is why researchers including Parnell (2008) and Stead and Stead (2008) pointed to a narrow management discourse on strategy performance relationships due to its traditionally short or medium terms focus on outcomes associated with organisational strategies. They subsequently proposed the sub-discipline of Sustainable Strategic Management (SSM) which encompassed strategy implementation and development that is simultaneously sustainable across a range of different perspectives. Many have built on this platform (Arnaud and Sekerka 2010; Stokes and van der Windt 2011; Herazo, Lizarralde et al. 2012; Schaltegger, Lüdeke-Freund et al. 2012; Lester and Menefee 2014).

Implementation and sustainability of improvement collaboratives will require a form of leadership which could be far removed from the traditional approaches that we know. Leadership was first thought of as a list of traits or characteristics that leaders possess which caused supporters to follow them (Carlyle, 1849). This 'one great man' theory was seen as insufficient in earlier times by many scholars including Stogdill (1948) and Mann (1959). In more recent times, the two overarching styles of leadership are compared and contrasted as Transactional Leadership and Transformational Leadership (Bass, 1985; Bass 1991; Bass & Avolio, 1993; Jarle et al., 2008). The former is related to a more traditional and instructional style based on a model of reward and punishment, whilst the latter is more co productive and participative in nature between leaders and subordinates (Ackoff 1999). A more "contingent" perspective of leadership is emerging which assesses leadership in different contexts and which refutes the universality of leadership traits/behaviours that denote success in all situations (Cole, Bedeian et al. 2011, Manning 2013). Some like Raelin (2003) have called for a form of leadership that relies on a distributed and shared form of leadership which is reliant on the entire members. This he terms as "leaderful practice" is based upon involving everyone in leadership and the practice of leaderfulness is seen as collective, concurrent, collaborative and compassionate (Raelin, 2012; Roberts, 2015).

In more recent times, the inclusion of a contingent-reward component to a variant of the many forms of transformational leadership can enhance the overall effectiveness of leaders; hence the ability to be dynamic, adaptive and reflective to changing situations and contexts marks a high level leader (Avolio and Bass 2001, Goleman 2003). These are invariably deemed as authentic leaders (Avolio and Gardner 2005, Walumbwa, Avolio et al. 2008). This form of leadership is what Collins (2001) denotes as Level 5 leadership. (see also Collins, 2005; Rosenthal et al, 2006; Owens & Hekman, 2012). These type of leaders are simultaneously comfortable working in shared leadership models where the functions of leadership can be dispersed to all members of the community within the organisation. There is much value in the shared and distributed model, however we cannot abandon the role of an energetic and strategic leader holding the centre.

We further link these leadership developments by highlighting these with issues of sustainability in strategic management in improvement collaboratives. This can be seen as analogous to Stead and Stead (2008) who developed the enterprise strategy

perspective as an analytical framework for investigation into sustainable strategic management; thus offering a lens into the conjecture and values of both strategic managers and stakeholders. Therefore, multiplicity of roles by both leaders and followers should be the more creative and innovative model within organisations.

Apart from the strategy and leadership literature reviewed above, the thematic table based on the work of Baker and Denis (2011) was used. This table attempts to characterize the system requirements, structure and underlying processes of large-scaled improvement and change collaboratives (Langley and Denis 2011, De Silva 2014) and the features of high performing health systems. The Baker and Denis' (2011) thematic table was used to gauge the impact, influence, challenges and sustainability needs of the large-scale collaborative in Leeds (LIQH), and lessons drawn from this to inform the development of such collaboratives.

Table 1: Ten Critical Themes in Transformation (Baker & Denis, 2011)		
LEADERSHIP AND STRATEGY	**ORGANIZATIONAL DESIGN**	**IMPROVEMENT CAPABILITIES**
Quality and system improvement as a core strategy	Robust primary care teams at the centre of the delivery system	Organizational capacities and skills to support performance improvement
Leadership activities that embrace common goals and align activities throughout the organization	More effective integration of care that promotes seamless care transitions	Information as a platform for guiding improvement
	Promoting professional cultures that support teamwork, continuous improvement and patient engagement	Effective learning strategies and methods to test and scale up
	Providing an enabling environment buffering short-term factors that undermine success	Engaging patients in their care and in the design of care.

The focus of this study is more based upon the use of leadership and strategy concepts that allow sustainability of improvement collaborative. However, we start with

the concepts and themes based on Table 1 which underpin the theoretical component of this study into sustainable health care systems, within which the emergence of large-scaled collaboratives and networks as an emergent structure for greater integrated care, quality and learning are becoming prevalent (Ferlie, Fitzgerald et al. 2011, Ferlie, McGivern et al. 2012, Malby, Mervyn et al. 2013, Berry 2015). Also, the previous scoping literature review undertaken for The LIQH (Mervyn and Amoo 2014) allowed us to adapt the themes to create five critical themes which are focused on leadership and strategy.

These are as follows:

1.   Quality and system improvement as a core strategy

2.   Leadership activities that embrace common goals and align activities throughout the organization

3.   Shared and Distributed Leadership that uses Raelin's (2003) 4 C's of leaderful practice: Collaboration; Cooperative; Compassionate; and Concurrent.

4.   Whilst recognising the shared and distributive form of leadership, there is the role of an energetic and strategic leader needed, with a drive and enthusiasm to hold the centre (preferably a significant clinician).

5.   Leadership programmes that enable applied leadership development activities.

In our review of the sustainable strategic management literature, we found limited studies on the healthcare sector, and in particular on developing sustainable high performing systems. So this study fills a gap in knowledge and understanding about the sustainability of high performing systems.

In this paper the terms "collaboratives", and "quality improvement collaboratives (QICs)", refer to boundless, joined up working which crosses disciplines and best practices across healthcare (Poissant, Ahmed et al. 2010). QICs are 'groups of practitioners from different healthcare organisations to work in a structured way to improve one aspect of the quality of their service. It involves them in a series of meetings to learn about best practices in the area chosen, about quality methods and change ideas, and to share experiences of making changes in their own local setting' (Øvretveit et al. 2002). High performing systems in healthcare are those that are

promoting professional cultures that support teamwork, continuous improvement and patient engagement (Baker, 2011).

4. Methodology

LIQH is a transitioning organisational form which seeks to become a sustainable entity, and this - in a similar vein to other studies within IJSSM (Bartenhagen and Feyerherm 2013) - has consequences for organisational development and sustainable change.

The Centre for Innovation in Health Management, University of Leeds designed, collected, analysed, and integrated quantitative and qualitative data within a pragmatic program of inquiry (Creswell 2008). This mixed-methods approach was adopted in order to provide a deeper and richer understanding (Johnson et al, 2007, Agnew and Flin 2013) of large scaled collaboratives for improvement. This approach of using a mixed methods model is also acknowledged by others (Doyle, Brady et al. 2009, O'Cathain, Murphy et al. 2010); and is now becoming the dominant paradigm in healthcare research. The type of topology of the mixed methods design we used was a QUAL + quan, where the two methods - qualitative (QUAL) and quantitative (quan) were undertaken concurrently, but the dominant status was the qualitative study (Johnson and Onwuegbuzie 2004; Creswell & Plano Clark, 2007). Data was collected at two different stages over a two-year period between 2014 and 2015. The primary technique for collecting the first set of largely qualitative data in April, 2014 was a self-developed interview template which included semi-structured and open-ended questions. These were used in 12 interviews conducted with senior health and social care leaders provided a deep exploration into systems leadership practices and experiences of senior health leaders and clinicians in Leeds. The first section of the questions related to personal thoughts on performance and practices in health systems leadership across Leeds. The second section was to assess motivators and barriers to working collaboratively and provide additional data about the impact of the Leeds Institute for Quality Healthcare. The third section asked for a self-evaluation of opinions of own leadership style and strategy. The fourth section was focused on how the Institute could improve its contribution and develop more effective and sustainable relationships.

The research was aimed to establish initial baseline findings for the Institute as an inquiry process for LIQH. Interviews were transcribed and largely analysed by thematic

identification by two readers of the text. The themes were then compared and aggregated across all the interviews. A significant scoping review was then undertaken into high performing systems (Mervyn and Amoo 2014), and consultations of the literature findings and Stage 1 research findings were conducted with experts in high performing systems before a further and more intensive round of interviews were undertaken. This follow-up (Stage 2) study of 21 senior health care interviewees was undertaken in November 2014 using the same selection criteria but a different sample.

For both stages of data collection, the quantitative data was implemented by looking at the five critical themes of Leadership and Strategy in high performing systems (adapted from Baker & Denis 2011) and using a quantitative scale from 1 to 10, interviewees were asked to score current performance against the four Leadership and Strategy sub sections. The items used in the quantitative survey are derived from our adapted critical themes on leadership and strategy as noted in the theoretical framework section.

5. Analysis and Results from the Qualitative Phase

For the analysis, NVIVO was used for the qualitative data. NVIVO was used to store and manage the transcripts and facilitated the coding of responses. After an initial round of transcript reading, each of the interviewee transcripts were then rigorously re-reviewed, by creating free nodes which were the less organised ideas and segments emanating from the text. Free nodes based on Thomas' (2006) general inductive approach then helped the researchers to later identify higher level themes which were linked to the questions around high performing health care systems (Baker & Dennis, 2011) and more specifically, on Leadership and Strategy. Free nodes were regularly reviewed as new transcripts were coded to identify whether themes pertaining to the research questions had continued through the following interviews. Further coding was then undertaken which emphasised some of the more emergent themes (Charmaz 2013). The literature was again subsequently explored in order to underpin, refute or support the evaluation research findings.

6. Analysis and Results from the Quantitative Phase

For this analysis, SPSS was used for analysis of the quantitative data. Our initial analysis was to assess suitability of the four (4) items from the Leadership & Strategy

Themes in High Performing Healthcare Systems (Baker & Denis 2011). As suggested in the literature, we used unidimensionality, validity and reliability as the main methods of assessment (Steenkamp and van Trijp, 1991; Black, 1999; Gerbing and Anderson, 1988; Nunnally, 1978). For these assessments we used Exploratory Factor Analysis (EFA). The procedure was carried out with the SPSS programme by examining the factor loadings when undertaking a principal component analysis (PCA) and using varimax rotation (see Field, 2009; Pallant, 2013). As reported in Appendix, the PCA result showed only one component (factor), and Kaiser-Meyer-Olkin Measure verified the sampling adequacy (KMO = 0.753); the Bartlett's Test of Sphericity (Chi-Square = 37.722; df = 6; p < 001) indicated that the correlation between the individual items are large enough for PCA (Field, 2009; Hair et al, 2006). Furthermore, the variance explained for the 4 items in the extracted factor was 62.398% and each item loading on the extracted single factor was high, all are > 0.70 (Field, 2009; Black, 1999). Also the reliability test gave results of Cronbach's Alpha α = 0.788 and this value is within the acceptable tolerance (see Nunnally, 1978; Hair et al, 2006). These results assured us of the unidimensionality, validity and reliability, allowing us to use the four themes in the Baker & Denis (2011) model as items in our quantitative survey to assess the high performance of healthcare systems.

The details of descriptive statistical analysis are reported in the appendix, and we extracts here in table, and Fig 1 to illustrate an interesting finding.

Fig 1: Mean scores and Standard Deviation (S.D.) of Quantitative Survey

| | Leadership & Strategy (L&S) Themes in High Performing Healthcare Systems | Performance (Mean scores & S.D.) | | | | | |
| | | First Survey | | Second Survey | | Total Survey | |
		Mean	S.D.	Mean	S.D.	Mean	S.D.
L&S 1	Quality and systemic improvement as a core strategy	6.00	1.932	6.48	0.956	6.24	1.444
L&S 2	Leadership activities embrace common goals & align activities throughout the system/network of care	5.68	1.886	6.52	1.030	6.10	1.458
L&S 3	Clinical leadership is supported by professional management	6.05	1.951	7.29	1.209	6.67	1.580
L&S 4	Shared decision-making with patients and families	5.50	2.162	7.05	1.065	6.27	1.613

Note: Quantitative Scale used is 1 to 10.

As indicated in the table of Fig 1 the views of the respondents in the first survey on performance against the 4 critical themes were very dispersed, which is reflected in the polarised scoring (means between 5.50 – 6.05; and also relatively high standard deviation (S.D.) = 1.886 – 2.162). Each category attracted scores of between 2 (1 being lowest) to 8 (10 being highest) from leaders. This shows a real diversity of perceptions in current performance. In the second survey, and after the respondents completed management and leadership training (as provided by the two leadership and change programmes), the means were higher (mean between 6.52 – 7.29) and their views were less polarised as reported in the now lower standard deviations (S.D. = 0.956 – 1.209).

Fig 2: Chart of Means of Quantitative Survey
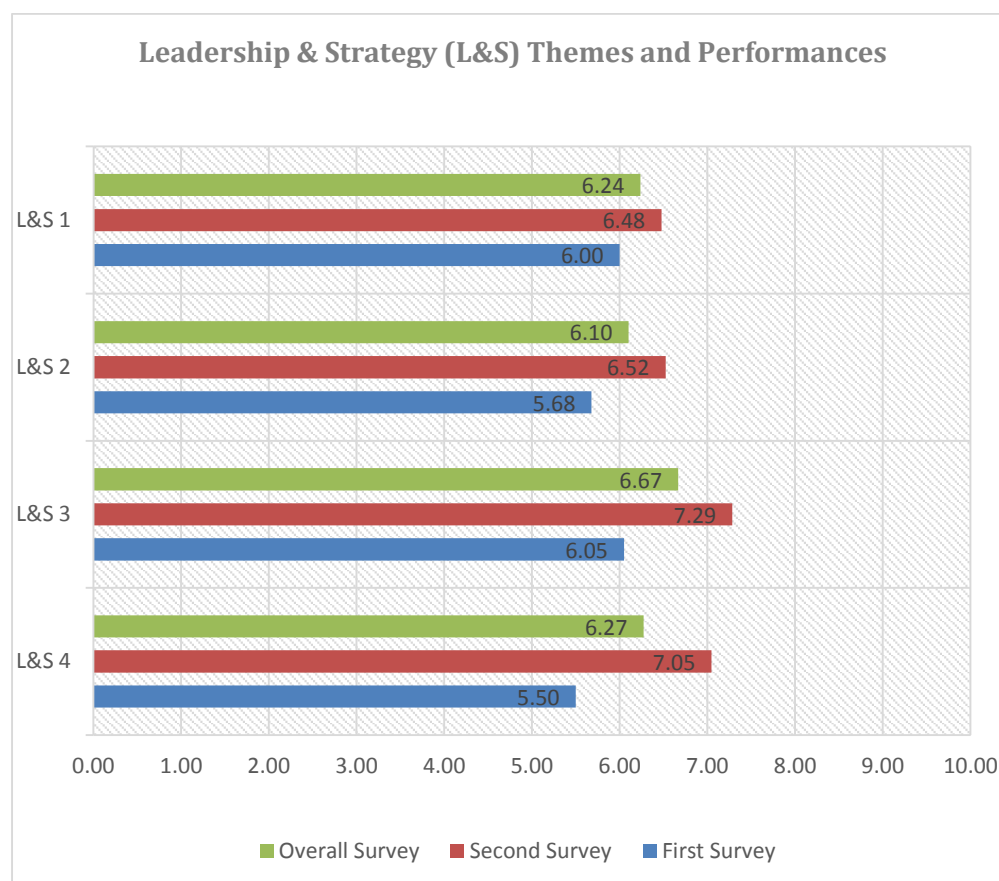
This finding is further illustrated in Fig.., where we see that the bars for the second survey are always longer that for first survey. This difference was further highlighted when we undertook and difference of means test of the first and second survey. Using a t-test, the results as provided in the Appendix showed that apart from the L&S 1, there was significant differences in the all the means ($p < 0.05$).

We also reported that for each survey all the averages (means, medium and the mode) are above 5, which is the mid-point of our 10 point scales, and we can therefore infer that the respondents more or less agree that these leadership and strategy themes are achieved on LIQH programme. Of the 4 themes the respondents also see the much higher importance of having professional knowledge that can support their clinical leadership (see L&S 3, with overall mode = 8; mean = 6.67; S.D. = 1.580). The correlations between these themes were are positive and significant (p < 0.05 or 0.01; 2-tailed) – the highest being that between L&S 2 and L&S3 (r = 0.593; p < 0.01, 2-tailed) indicating that leadership practice and professional management practices are well aligned with each other in the performance of healthcare systems.

7. Key Lessons from the Literature for Leeds Institute for Quality Healthcare

Key lessons have emerged from the role that LIQH is playing in the development of Leeds as a high performing healthcare system. This section helps to illuminate the challenges and opportunities to its development through seven key propositions. These seven key lessons which have been packaged as propositions emerged from the outputs from the mixed method evaluation research findings.

Proposition 1. *Vision, Strategy and Execution is Inextricably Interlinked with Sustainability*

In the normative and past management literature, a vision is articulated and seen as coming from normally the head/founder of the organisation (Johnson et al, 2013). It thus always connotes the idea of "one great person" (Avolio, 2007; Bass, 1990). In more recent times it now behoves on us to consider a "shared vision" – where the ideals and imaginatively what could be achieved is articulated not by a leader, but by a community with shared purpose and practice (Raelin, 2003; Block, 1993). This is the approach that is seen in a collaborative community like LIQH:

> *"...different ways about using networks as a way of leadership across the system, as opposed to say leadership is an organisation of which you must have more control".*

Visions alone are not useful unless they are translated into a strategy, goals and objectives that can be executed (Raps, 2004: 53; Allio, 2005). It is the execution of the strategy that is important (see e.g. Zagotta and Robinson, 2002; Pryor et al., 2007; Neilson, Martin and Powers, 2008) and not only that, but there should be a sustainability of the results of any execution. That is why LIQH's strategic purpose is to create a sustainable, whole place-based approach to quality of healthcare. It was reported that the ability to create a vision for innovation and translate that vision into strategy is essential, and co-ordination between both policy and operational spheres is critical for supporting the implementation of intricate innovations at large scale. The importance of an enabling vision is a critical theme from the literature (Rosen, Mountford et al. 2011) and one that LIQH has embraced from the outset:

> *"LIQH's strategic objectives include looking at ways to work together on an economy scale, and to make a difference that is sustainable, embedded and doable. The difference with LIQH has been the cross-systems leadership component...And that has made it unique and valuable, and I think I would really want to see it to continue to grow and to flourish, and I would be really sad if we as a system don't grasp the opportunity that we now have to build on the momentum that we have created".*

This is also congruent with the literature on networks where effective networks have a compelling organising purpose (Cunningham, Ranmuthugala et al. 2011, Malby, Mervyn et al. 2013). This is reflected in responses from the present study where LIQH is seen as more than simply a fluidly organised model that can be used as-and-when:

> *"…the work is very, very stimulating to think in a different way about improvement at a systems level, and I think what's trying to be pushed here is a different form of leadership, a collaborative leadership through a network"*

This quote on leadership and strategy and vision are also supported from the quantitative study as reported in the high values for all the three averages which being at the higher end (6) of a 7-point scale, and also smaller standard deviations (see descriptive for the three averages mean of our Leadership and Strategy theme 1&2 in the appendix.

It was reported that LIQH has a lucid and logical strategic vision which clearly communicates its ideals and aspirations to stakeholders, and helps to invigorate

followers (Conger and Kanungo 1988) by navigating them on the desired approach to system wide improvements. As one stakeholder suggested:

> "... *there is something about how they get people to talk, and finding some real truths all about it and finding scale in their approach…it's all about that vision and it's the possibilities, it's what if?, what can?, what should?, how can we?, whereas with Health Education, which is the nearest that I can align it to, is more about they want*".

Healthcare organizations and their networks like those of the NHS do not historically compete in the traditional commercial sense, but do compete for sustained funding for continuing operations, incremental funding for new initiatives as well as for staff. Considering the lessons from the Health Foundation which indicates mixed evidence regarding the impact on three important variables in improvement collaborative, namely "care processes; patient outcomes; and impact on service users and costs" (De Silva, 2014: p.8-13). We also found that a local, city-wide collaborative can present a more functional, viable and sustainable options than the other geographical settings – particularly if it has a well supported and functional health delivery system already in place (c.f. Baker and Denis 2011). This is a prerequisite. Considering that leaders of large-scale collaboratives must articulate with confidence the collaborative' direction (Armistead, Pettigrew et al. 2007, Sullivan, Williams et al. 2012), our findings concur with the literature that projects must align with the organisational vision and strategic goals to ensure that buy-in is realised. Hence LIQH functions as an alignment network through the way that it connects individuals with a common purpose and raises awareness and consciousness about the bigger picture (of system wide improvement). This is helping to develop a unique culture of best value clinical care, with patients and service users as core partners in the governance and decision-making processes. This allows us to propose that vision, strategy and execution are Inextricably Interlinked with sustainability in high performing collaborative improvement systems.

Proposition 2: *The Top of the System Needs to Focus on the Systemic Issues that Emerge from the Collaborative for Improvement to Work at Scale*

Senior leaders must ensure that the culture and climate exists for innovation to flourish within organisational settings. Steps must be undertaken for addressing senior

member's reluctance to engage wholeheartedly in the process. There is also a real need to provide the right level of support that enables change to spread [In Leeds]:

> *"…it's going to have to be about changing people's attitudes and behaviours. I'm not saying that in a negative way; just to be able to work together, we'll have a different relationship with patients and the public, and that's hard work So I think, in other words, the environment is changing and it's far more fertile ground for The Institute to be working in".*

This correlates with the need for gaining more buy-in from organisations in the city of Leeds where there is limited engagement from some organisations who have yet to properly engage, although pessimists are gradually coming on-board. It has taken this first year for all the founding organisations to generate wide commitment:

> *"I think that the trust, xxxx if I'm honest is just beginning to get a sense of the value of this work and we've got a lot more work to do to engage and we will do that".*

Respondents have noted some really positive work that the Clinical Commissioning Groups (CCGs) are undertaking, however a key challenge relates to the rank and file GP and how they can get more deeply involved in LIQH:

> *"We have some level of GP engagement, but how we spread that and get a lot more I think is going to be really tricky but they're inevitable in any large system change".*

Senior leaders involved in large-scale change initiatives must focus on developing momentum and seeing the bigger picture to ensure sustainability. Considering a recent scoping review finding that: 'A leader as coordinator is required to implement change …' (Mervyn and Amoo 2014: 9). It was reported that the senior leaders of participating healthcare organisations in LIQH must focus on developing momentum and seeing the bigger picture as opposed to dallying and pondering the effects of the Advanced Professional Leadership Programmes for senior cadre or Professional Leadership and Change Programmes which underpin system-wide improvement initiatives:

> *"...the engagement that we've seen already from the three PLP's is that people want, you know they're surprised that they've been given this authority to do this and I think it's about persuading them. Just get on with it. We'll sort out you*

know the, opening the doors... Because if we don't then you know the city is not going to achieve what it is capable of".

Considering that interprofessional collaboration is severely restricted by professional and organizational territoriality, to enable professionals in the collaboration process across complex boundaries, it is important for such groups to see the world through a broader lens, 'beyond their own interests and even be willing to give up parts of their territories if necessary' (Axelsson and Axelsson 2009:324). This is providing a challenge however it is not seen as insurmountable. Also, managers must take a broader perspective and see the world from beyond the narrow focus of their organisational entities, and be willing to relinquish aspects of their territories for the greater good pertaining to inter-professional collaborations. The concept of altruism reflects the act of moving beyond and giving up on specific organisational interests for a common purpose (Krebs and Miller 1985). Altruism's focus on sharing, caring and concern for society is in contrast to territoriality which is acutely focused on defence of a territory (Axelsson and Axelsson 2009). LIQH's partnerships with the NHS, local authority and the university has enabled the development of an enabling shared space. Respondents acknowledged how LIQH is building on the knowledge acquired from understanding the system in which they are working.

We have noted in our theoretical framework section that even within a form of shared and distributed leadership, there is the need for a strategic leader. So that allows us to propose that thoe at the apex of the system, must focus on the systemic Issues that emerge from the collaborative for improvement to work at scale

Proposition 3: *Differentiation of Both Leading and Leadership in Large Scaled Collaboratives Is Required.*

Quality Improvement Collaboratives due to their distributed political structure and their complex linkages, require extraordinarily disciplined and transformational leaders such as the individual at the apex of the LIQH who has been credited by several respondents as bringing colossal energy, enthusiasm, coherency and drive to systems-wide change efforts. This is important considering that the literature infers that the leaders' ability to motivate collaborative members is critical. This also concurs with the literature on leading in networks which indicates the need for leadership in

start-up which is different from leadership in the maintenance stages. Steps are being laid to ensure that an equal and enabling atmosphere exists within the network, underpinned by consistent leadership that motivates and encourages all members to work as functioning unit.

LIQH's Programme Manager, working with the Executive group was seen as the catalyst for both driving the LIQH strategy at a higher contextual level, but also for ensuring grassroots and patient/service user involvement was diligently embedded. This individual was widely credited for creating the momentum and providing the necessary push to keep striving and focusing on the bigger picture, particularly when challenges emerge. Hence, the role of the strategic leader in collaborative and also succession planning for that leader is very important.

Some respondents inferred that:

> "…what is particularly special about LIQH and the virtues that are associated with it is the strategic leadership provided by this individual".

The literature clearly notes how leadership of improvement collaboratives is the most important variable in operating or sustaining any collaborative venture (Umble, Baker et al. 2011, c.f. Malby, Mervyn et al. 2013). It was reported that:

> "LIQHs energetic leader has been able thus far to articulate clear strategic visions and to negotiate through the tricky maze of power and politics that are inherent in participating in collaborative".

LIQH's leader also passionately ensures that LIQH's work is underpinned by shared and distributed leadership. Evidence from the literature review (Vaill 1982, Baker and Denis 2011) infers that for most high performing healthcare systems globally, not only is shared and distributed leadership required, but there should also be strong senior leadership. This was evident through a range of responses found in LIQH evaluation study. Also power and politics are at play from senior leaders to frontline teams and subordinates can be hesitant to discuss sensitive issues with peers. Senior leaders were seemingly expecting frontline teams to be discussing things without fear or fervour. However, there were also acknowledgments that such a large institute for quality improvement should be less dependent on personalities and individuals in order to achieve sustainability. It was felt that the organisations are maturing quite

diligently and LIQH has been credited with helping those organisations in the process of maturing and:

> *"...having those adult conversations, how are we going to support one another to sort our shared problems out rather than trying to consume our own smoke and I think this work now is at a stage where it is vital that if it is not sustained and continued, it might fizzle out and die... Because I think all these things are vulnerable because if it depends on personalities then it's vulnerable so I think what the institute can help is do is industrialise the process so it's not dependant on personalities and individuals but rather, this is how we do things here (in Leeds). So even if people move on it won't make any difference."*

This supports our proposition that differentiation of both leading and leadership in large scaled collaboratives is required for a sustainable high performing system because of issues of power and politics which are inherent within such networks.

Proposition 4. *Robust Innovation and Change Management Practices are Needed For Sustainability.*

Innovation is a complex and multifaceted concept which is sometimes very difficult to express. In any organisation, each member comes with their own set of cognitive abilities and that can be translated to creative ideas on how the organisation should be run or moved forward. Innovation in an organisation entails using this creativity to enhance teamwork within the organisation (Teece, 1992; 2010). Healthcare innovation studies are encouraged to consider the broader technological and organizational context including those covering a more process-based approach (Denis, Hébert et al. 2002), temporality in the context of organisational readiness (Williams 2011), and by seeking insights beyond the health care space (Pronovost and Hudson 2012). Interest lies in why innovations are hindered and why they do not readily spread (Ferlie, Fitzgerald et al. 2005) regardless if underpinned by a strong evidence base. In effect, innovation should be simultaneously adapted and adopted into respective organizational contexts, and a culture and climate for innovation is a temporal phenomenon and must be developed incrementally (Williams 2011) in the context of large scale change. Improvement collaboratives which invariably involve change, must apply innovation and change management principles. These include identifying the

case and energy for change, developing skills in change leadership and management, and evaluating impact. It also includes a model for learning and connecting across the network, and management of the activity of the whole. Hence implementation of a carefully crafted approach to support network members impacted by the innovation is needed to become sustainable. Improvement or change is an evolving process with expected and emergent properties and outcomes (c.f. Mervyn and Amoo 2014).

Considering that health care service delivery is increasingly operationalised within a network structure (Bandeira Rodrigues, dos Santos Silva et al. 2014), whereby support, collaboration and competition mutually exist, the challenge of leading change is an inherently complex process (Zachariadis, Oborn et al. 2013, Jacobs, Rouse et al. 2014). However our findings reaffirm the critical importance of having leaders who can bridge the gap between the various networks' interests and lead them to a common goal in order to realize successful change implementations. This is important considering that two thirds of change processes were unsuccessfully implemented within health care (Jacobs, Rouse et al. 2014). One respondent stated: *"I think to some extent the role of improvement, science, change management skills, the role of clinical medical leaders is, that … it all overlaps".*

Small incremental changes are a far better approach since that averts the risk element in a change process. It was widely agreed that leadership should drive this:

> *"…but I still think there a million possibilities that we will never as a group of leaders think of but the people in our organisations will and what we need to do are to create the conditions for them to be able to make the changes, the small incremental changes that are needed [i.e. 2% a 3%,a 5% improvement to be made by many people] and then respond accordingly when those changes are being made to make sure that the conditions then continue to adapt to allow those conditions to flourish".*

> *"Small incremental changes would be good. But also being able to demonstrate that you are contributing to some of the big system change challenges and some of the ways that we want to address those".*

Improving the quality of care through the sharing of clinical knowledge in innovation and improvement and taking novel approaches to professional accountability are critical to the development of LIQH, and: 'If improvement is to be maintained and/or

continued, plans are needed at an early stage for sustaining and building on the structures and capacities which the programme will create' (Øvretveit and Klazinga 2013: p184).

LIQH have considered the advice of others (Dixon-Woods, McNicol et al. 2012, Øvretveit and Klazinga 2013) and proceeded with caution regarding its evolving organizational structure, encourages realism about what can be achieved, and develops in small focused steps through a focus on three key clinical priorities and when designing and planning improvement interventions. Hence, as change management is a critical issue within Collaborative Networks, we concur with observers that including a robust change management plan ensures an effective way to manage people changes (De Silva 2014).

In the wider context of healthcare, Public/Private Partnerships experience significant structural and operational stress and strains, however "*structures, rules and procedures serve to legitimize institutional norms and values*" (Jacobs 1996: 139). Conversely, lethargy and inaction that emanate from these same norms and values can result in resistance to change. Ferlie and colleagues suggest that the spread of health care innovations were related to the growing focus on evidence-based decision-making which inferred that clinical practice should be underpinned by a rigorous empirical evidence base rather than the traditional emphasis on clinical opinion. They also 'argue that strong boundaries between professional groups at the micro level of practice slow innovation spread' (2005: p.117). In effect, great change such as that being enacted by LIQH was driven by adverse events associated with the financial crisis and realization that the health system in its current form was wasteful, expensive and inefficient leading to poor care quality. Respondents widely acknowledged that effective change management and health care improvement are dependent upon a holistic focus as opposed to a focus on singular systemic elements over others. In the midst of this change management, organisations need to be aware that if the implementation of change is not possible, it could lead into crisis. Organisational crisis knows no boundaries regardless of organisational types such as not-for-profit or charitable organisation, an SME or large scaled organisation (Pearson and Clair, 1998; Spillan & Hough 2003).

Several respondents inferred how system wide change could be enacted through focusing on quality improvement i.e.

"It needs staff who are skilled in it, you need boards who understood it and who required their staff to work in a certain way, you would need a system that paid attention to those things that QI said are important, and you'd need that cover what I call the planning parameters".

In order to instigate large scale change, it is vital to use a service improvement methodology;

"... it can be any type...One of the things I've been banging on about in the city for ages, in Leeds, is the point that we describe some of the things we do as systems, but –they're not systems, they're a collection of activities which have developed over time, between which we try and draw connections and inferences".

Furthermore, one respondent refers to urgent care being widely and incorrectly characterised as a system rather than: *"...an incremental collection of things...and if you're using a services improvement methodology, you actually get back to some real basic questions, and I think we're still not doing that".* Systems change is already being enacted within some organisations irrespective of LIQH's influence, but:

"…what we will – what we should be doing, is actually offering service users and carers different providers at different points of the care pathway…which is more consistent with the broader strategic aims associated with choice in the NHS, and so on" .

Our proposition emphasises a key lesson for high performance collaborative systems is that there should be robust innovation and Change Management practices in place in order to achieve sustainability.

Proposition 5: *Promotion of professional cultures is essential for high performing systems*

The importance of a supportive organizational culture and employee job satisfaction is broadly articulated in the literature, for instance through Asiedu's (2015) case study in a UK banking company. In regards to the implementation in collaboratives, the literature notes how challenges have emerged regarding the organizational and institutional contexts, professions and leadership around how to create a common

culture and collaborative tensions regarding infighting in the context of special interest groups and the incentivisation of participation (Dixon-Woods et al., 2012). Baker noted how: 'Promoting professional cultures that support teamwork, continuous improvement and patient engagement' is essential for high performing collaborative systems (Baker 2011: p.13). We found that a common language was in the offing at LIQH. Having a common narrative and also a common language was seen by respondents as essential for underpinning the momentum, however there were barriers to both and some senior leaders were unable to define what the new institute constitutes. The LIQH initiative confirms that professional culture building that facilitates quality improvement, patient engagement and teamwork is a key feature of high performing healthcare systems. Bringing changes at micro system level underpinned by local support was reported, and this support is the development of themes and strong leadership in a culture of learning and engagement which augurs well to continuous healthcare improvement. This is a view held by most respondents, for instance one the respondent believes that LIQH is: *"helping to foster a culture of learning across organisations".* The use of common tools, language and share methodologies were reinforced through the LIQH programmes.

The above responses from the present study show how promotion of professional cultures was highly valued and important, particularly for spread of the impact to teams outside of the PLP programmes. Several respondents are undertaking more inter-professional working, partially as a result of the PLP and interaction with LIQH: *"because of the groups, it's kind of forcing me to where I want to get".*

Proposition 6*: A Large Scale Collaborative Sustainability Must Be Considered in The Context of the Current Economic Environment, Demonstrating Impact Against Purpose*

LIQH's sustainability is inextricably challenging in the context of the current economic environment and tensions attempting to justify investment in a systems-wide improvement network. There is also a recognition that LIQH should evolve but also maintain momentum: "*And that's not to say the institute should evolve because I think that's what it needs to do but I think it needs to maintain its momentum and look at what else is around but not think in years time, let's not have an institute, let's have something else. We need to make sure that what we are doing is understandable and*

believable that it will deliver." As healthcare goals are often as broad as they are diverse, there is a need to increase the capacity of health care value, yet value in the health care sector remains rather unmeasured and often misconstrued (Porter 2010).

The LIQH evaluation model enabled regular formal review of impact in terms of systems leadership and clinical frontline change. There was recognition from the work on high performing health systems that change across primary and secondary care takes time. These are problems that have challenged the NHS for many years and have remained unresolved. The 5 Year Forward View recognises this and the LIQH leadership group also recognised the need to be steady and patient, with long-term goals.

New large scaled collaboratives for improvement should show impacts on quality and financial costs with a reasonable period of time. As difficult as it might seem, it was reported that LIQH must try to illustrate significant inroad to impacts on quality and financial costs within the first two years of starting. This will enable LIQH to continue to invest in this approach. However, the financial reality within the NHS and pace of change means that the:

> "*Enormity of the problem verses the relative small size of this solution will still mean that we've got our work cut out. I've been around long enough to know that there are going to be people who will be [quite] happy in 18 months time to go, 'yeah I knew that would never work'. They haven't got a solution themselves as to how it should work but there will be plenty of people that will go, yeah another thing that's failed or that was a waste of money or whatever*".

It was reported that LIQH can offer a non-bureaucratic and independent and impartial approach:

> "*...you just have to be objective about what it is trying to do and how it's gonna be measured, and what it's for, and why it's needed, because for an organisation, and a programme of work with public money, which is [focused on] quality improvement should work on a set of methods which go to demonstrate variation, demonstrate need, demonstrate processes and how those things will impact on change*".

There are also Organisational Structural issues that are comparable to an organisation with big funds. There is a perception that LIQH should be run as a big business due

to its large financial support. However as in big business, the results are expected long term rather than focusing on short term gains. One respondent stated:

> *"We are supposed to be heading up CSUs. We are basically running a million pound organisation here with a small board of three people. Whereas if we were to compare that to the private sector they would have a whole board of people just to do what we do. And more of the business is coming our way."*

Overall LIQH evaluation demonstrated a shift in culture and the seeds of significant change in the way doctors in particular worked across primary and secondary care. The LIQH programmes also spread to impact participants' day to day work in their teams, and the relationships between commissioners and providers.

Proposition 7. *Large Scaled Collaboratives are robust Learning Organisations*

Considering that successful collaborations are also bound to partnerships, it emerged that LIQH members which consists of different organisations and individuals need time to learn and adapt to one another. This correlates with an empirical evidence base (Tuckman 1965, Axelsson and Axelsson 2006, Tuckman and Jensen 2010). Equated with this acknowledgement is that the LIQH as a collaborative improvement network is essentially emerging as a learning organization (Senge and Sterman 1992) and following Mitchell and Shortell, (2000), a continuous evaluation to sustain development and the collaboration was being embedded in the fabric of LIQHs strategy.

Promotion of a common culture was widely acknowledged and evident from others who seen real value in the CIHM Directors role in steering the Institute in conjunction with others. One respondent stated:

> *"LIQH is developing Leeds as a culture of learning in health care systems by improving quality of care that drives efficiency. Also, the LIQH is developing a culture of learning because it involves building on the local knowledge and co-existing cultures in Leeds within GPs and beyond… Whether it be related to outcome or processes measures or service utilisation or whatever. So it's about being able to apply a robust health improvement methodology and also to develop a culture of learning"*

Other responses included: "*Very much about bringing people together in a kind of constellation of joined learning and joint exploration around leadership in health*". Members of large scaled collaboratives need training and development initiatives, planned experience-exchange activities and programs, in conjunction with robust recruiting strategies and clear staff leaving procedures (Øvretveit and Klazinga 2013, De Silva 2014), hence specific development at different strategic levels is being provided by LIQH as part of the change approach. LIQH are developing leaders from complex organisations across all levels, as encouraged by Dalakoura (2010). In this respect, a collective form of leadership is seen as more sustainable in the grand scheme of the systems wide improvement effort. Through Bakers guidance (Baker 2011), and mentoring from Intermountain Healthcare the Advanced Professional Leadership Programmes (APLP's) provide a vital component of leadership development for improvement in LIQH. LIQH has instigated two leaderships programs with the aim to fulfil this need: The Advanced Professional Leadership Programme (APLPs) – for leaders of quality within organisations and across the health system in Leeds and The Professional Leadership and Change Programmes (PLPs) to support three clinical priorities - through education and support for application, as well as Communities of practice to support learning across improvement practitioners, and data teams. The APLP is seen as an enabling mechanism for many individuals within healthcare organisations. One respondent stated that: "the institute has had such an empowering effect on him that this has filtered through to his subordinates in the workplace". Respondents also reported how they translated learning from The Institute, into their day jobs: i.e. *"…using the methodology...on the public health side. On the NHS side of Leeds West we've put a whole load of initiatives which are coming out of the critical masses [work] we've done the APLP"*.

Another respondent referred to LIQHs ability through its programmes and spin off influences relating to i.e. budding between APLPs and PLPs as: *"...creating the conditions for an empowered dispersed leadership model to work. So they're escalating a problem to me that they can't solve that I then have the ability to just work out and if I don't know how to do it then I know who to ask to do it for me*". Respondents see another level of strategic importance in terms of training senior leaders in the health and social care economy in Leeds in the APLP to understand quality improvement methodology and attempting to achieve effective continuous improvements in the quality of care:

> *"...we know that there are big faults in the way we deliver healthcare, particularly around primary care, and we know that things don't work well; ...I think these sessions will not necessarily change the way that individual organisations work, but will change the way that we work together".*

Respondents on the PLPs clearly viewed the programmes in a very positive light for illuminating QI amongst LIQH professionals. Many were startled and impressed by the different lens being offered into QI:

> *"……Never heard of swim diagrams, never heard of driver diagrams, you'd probably touch on it peripherally but not to the extent that they did, and you just see the potential for where it can really inform, not just that programme but other elements of your work. So really valid".*

The gains made from the Systems Leadership programme are highlighted by the results of the quantitative survey, where we reported that the views on performance as indicated by respondents were relative higher after the short-courses for improvement leads and re-designed the Systems Leadership programme. The mean of each of the 4 themes were respectively higher (*mean* = 5.50 – 6.05 to *mean* = 6.52 – 7.29). The views were also less dispersed (*S.D* = 1.886 – 2.162 to S.D. = 0.956 – 1.209, respectively). Apart from the L&S 1, we reported also that these differences were found to be statistically significant ($p < 0.05$).

8. Summary and Conclusion

In this study, we have looked at a plethora of leadership and strategy challenges faced by improvement collaboratives that have emerged and must be overcome to ensure that the collaborative ventures do not fail from the outset and become sustainable. More innovative and creative forms of organisational structures encompassing shared and distributed forms that are underpinned by an energetic and strategic leader are required to drive such high performing systems. Problems must be carefully considered and chosen through an engagement process with the collaborative as a whole, and the ability to organize, adapt and reorganize is essential. Energetic leaders at the top are required and the need to keep inspiring, adapting and iterating is essential. The ability to create a vision for innovation and translate that vision into strategy is essential, and co-ordination between both policy and operational spheres is critical for supporting the implementation and sustainability of such large scale collaboratives. There must be also a leadership commitment to quality and education for all members, not only one and this should be at the forefront to enable the

accommodation of complex changes that are inherent in such high performance improvement collaboratives. The promotion of a professional culture becomes essential for such high performing systems and organisational learning plays a vital role. At the heart of this approach ensures that systems leadership is inextricably tied into learning. Learning programmes should be carefully developed within such collaboratives, which make it a unique and sustainable endeavour.

Healthcare systems are becoming increasingly expensive to governments, globally. Management research is gradually catching up with the call by governments to unearth new innovations in healthcare management. We therefore hope that these propositions highlighted in this paper can be a platform for further research into this important policy area. We hope that our findings contribute to new knowledge and developments in healthcare management.

REFERENCES

Ackoff, R. (1999). "Transformational leadership." *Strategy & Leadership* 27(1): 20-25. Avolio, B.J. (2007) 'Promoting more integrative strategies for leadership theory-building, *American Psychologist*, 62 (1), pp.25-33.

Avolio, Bruce J., and Bernard M. Bass, eds. *Developing potential across a full range of Leadership Tm: cases on transactional and transformational leadership.* Psychology Press, 2001.

Agnew, C. and R. Flin (2013). "Senior charge nurses' leadership behaviours in relation to hospital ward safety: A mixed method study." *International Journal of Nursing Studies.*

Ahgren, B. and R. Axelsson (2011). "A decade of integration and collaboration: the development of integrated health care in Sweden 2000–2010." *International journal of integrated care* 11 (Special 10th Anniversary Edition).

Ansoff, H., J. Avner, R. Brandenburg, F. Portner and R. Radosevich (1970). "" Does planning pay off? The effects of planning on success of acquisitions in American firms"." *Long Range Planning* 3(2): 2-7.

Armistead, C., P. Pettigrew and S. Aves (2007). "Exploring leadership in multi-sectoral partnerships." *Leadership* 3(2): 211-230.

Arnaud, A. and L. E. Sekerka (2010). "Positively ethical: The establishment of innovation in support of sustainability." *International Journal of Sustainable Strategic Management* 2(2): 121-137.

Asiedu, Elvis (2015). "Supportive Organizational Culture and Employee Job Satisfaction: A Critical Source of Competitive Advantage. A Case Study in a Selected Banking Company in Oxford, a City in the United Kingdom."*International Journal of Economics & Management Sciences.* 4:272.

Axelsson, R. and S. B. Axelsson (2006). "Integration and collaboration in public health- a conceptual framework." *International journal of health planning and management* 21(1): 75.

Axelsson, S. B. and R. Axelsson (2009). "From territoriality to altruism in interprofessional collaboration and leadership." *Journal of Interprofessional care* 23(4): 320-330.

Baker, E. L. (2011). "Investing in Public Health Leadership." *Journal of Public Health Management and Practice* 17(3): 291.

Baker, G. (2011). "The roles of leaders in high-performing health care systems." from http://www.kingsfund.org.uk/sites/files/kf/roles-of-leaders-high-performing-health-care-systems-ross-baker-kings-fund-may-2011.pdf. (Accessed 07 February 2016)

Baker, G. R. and J.-L. Denis (2011). A comparative study of three transformative healthcare systems: *Lessons for Canada, Canadian Health Services Research Foundation*.

Baker, G. R. and J.-L. Denis (2011). "Medical leadership in health care systems: from professional authority to organizational leadership." *Public Money & Management* 31(5): 355-362.

Baker, R., N. Robertson, S. Rogers, M. Davies, N. Brunskill, K. Khunti, M. Steiner, M. Williams and P. Sinfield (2009). "*The National Institute of Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Leicestershire, Northamptonshire and Rutland (LNR):* a programme protocol." Implementation Science 4(1): 72.

Bamford, D. and S. Daniel (2005). "A case study of change management effectiveness within the NHS." *Journal of Change Management* 5(4): 391-406.

Bandeira Rodrigues, L. B., P. C. dos Santos Silva, R. C. Peruhype, P. F. Palha, M. P. Popolin, J. d. A. Crispim, I. C. Pinto, A. A. Monroe and R. A. Arcencio (2014). "Primary Health Care in the coordination of health care networks: an integrative review." *Ciencia & Saude Coletiva* 19(2): 343-352.

Bartenhagen, J. W. and A. E. Feyerherm (2013). "Transitioning organisations for sustainability: implications for organisation development and change management." *International Journal of Sustainable Strategic Management* 4(2): 137-154.

Bass, B.M. (1990) 'From transactional to transformational leadership: learning to share the vision', *Organizational Dynamics*, 18 (3), pp.19–31.

Bass, Bernard M. *Leadership and performance beyond expectations*. Free Press; Collier Macmillan, 1985.

Bass, B. M. (1991). "From transactional to transformational leadership: Learning to share the vision." *Organizational dynamics* **18**(3): 19-31.

Bass, Bernard M., and Bruce J. Avolio. "Transformational leadership: A response to critiques." (1993).

Battilana, J. and T. Casciaro (2012). "Change agents, networks, and institutions: A contingency theory of organizational change." *Academy of Management Journal* 55(2): 381-398.

Belmondo, C. and C. Sargis-Roussel (2015). "Negotiating language, meaning and intention: strategy infrastructure as the outcome of using a strategy tool through transforming strategy objects." *British Journal of Management* 26(S1): S90-S104.

Berry, L. (2015). "'Vanguards' to test ideas for radical redesign of NHS: Pilot sites will try three new models as part of the government's plan to integrate services." *Nursing older people* 27(3): 6-6.

Brews, P. J. and M. R. Hunt (1999). "Learning to plan and planning to learn: Resolving the planning school/learning school debate." *Strategic Management Journal* 20(10): 889-913.

Brockbank, A., I. McGill and N. Beech (2002). *Reflective learning in practice*, Gower Publishing, Ltd

Buchanan, D., A.,, R. Addicott, L. Fitzgerald, E. Ferlie and J. I. Baeza (2007). "Nobody in charge: Distributed change agency in healthcare." *Human Relations* 60(7): 1065-1090.

Carlyle, T. (1849). *On heroes, hero-worship, and the heroic in history*. Boston: Houghton-Mifflin.

Charmaz, K. (2013). *Grounded Theory as an Emergent Method Handbook of emergent methods*. S. Hesse-Biber and P. Leavy, Guilford Press.

Cole, M. S., A. G. Bedeian and H. Bruch (2011). "Linking leader behavior and leadership consensus to team performance: Integrating direct consensus and dispersion models of group composition." *The Leadership Quarterly* **22**(2): 383-398.
Collins, J. (2001). Level 5 leadership: The triumph of humility and fierce resolve. Harvard Business Review, 66−76.

Collins, J. (2005). "Level 5 leadership: The triumph of humility and fierce resolve." *Harvard Business Review*, (7-8) (136-146): 234.

Conger, J. A. and R. N. Kanungo (1988). "The empowerment process: Integrating theory and practice." *Academy of management review* 13(3): 471-482.

Creswell, J. (2008). *Research design: Qualitative, quantitative, and mixed methods approaches*, Sage Pubns.

Cunningham, F. C., G. Ranmuthugala, J. Plumb, A. Georgiou, J. I. Westbrook and J. Braithwaite (2011). "Health professional networks as a vector for improving healthcare quality and safety: a systematic review." *BRITISH MEDICAL JOURNAL Quality & Safety* 21(3): 239-249.

Dainty, K. N., D. C. Scales, T. Sinuff and M. Zwarenstein (2013). "Competition in collaborative clothing: a qualitative case study of influences on collaborative quality improvement in the ICU." *BRITISH MEDICAL JOURNAL Quality & Safety* 22(4): 317-323.

Dalakoura, A. (2010). "Differentiating leader and leadership development: A collective framework for leadership development." *Journal of Management Development* 29(5): 432-441.

De Silva, D. (2014). Improvement collaboratives in health care. London, *The Health Foundation*.

De Silva, D. (2014). Spreading Improvement ideas: Tips from Empirical Research. 20, *The Health Foundation*.

De Winter, J. C. (2013). Using the Student's t-test with extremely small sample sizes. *Practical Assessment, Research & Evaluation*, 18(10), 1-12.

Denis, J.-L., Y. Hébert, A. Langley, D. Lozeau and L.-H. Trottier (2002). "Explaining diffusion patterns for complex health care innovations." *Health care management review* 27(3): 60-73.

Dhillon, J. K. (2013). "Senior Managers' Perspectives of Leading and Managing Effective, Sustainable and Successful Partnerships." *Educational Management Administration and Leadership* 41(6): 736-750.

Dixon-Woods, M., S. McNicol and G. Martin (2012). "Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature." *BRITISH MEDICAL JOURNAL Quality & Safety*: bmjqs-2011-000760.

Doyle, C., C. Howe, T. Woodcock, R. Myron, K. Phekoo, C. McNicholas, J. Saffer and D. Bell (2013). "Making change last: applying the NHS institute for innovation and improvement sustainability model to healthcare improvement." *Implementation Science* 8.

Doyle, L., A.-M. Brady and G. Byrne (2009). "An overview of mixed methods research." *Journal of Research in Nursing* 14(2): 175-185.

Evans, S. and H. Scarbrough (2014). "Supporting knowledge translation through collaborative translational research initiatives: "Bridging" versus 'blurring boundary-spanning" approaches in the UK CLAHRC initiative." *Social Science & Medicine* 106: 119-127.

Ferlie, E., L. Fitzgerald, G. McGivern, S. Dopson and C. Bennett (2011). "Public Policy Networks and 'Wicked Problems': A Nascent Solution?" *Public Administration* 89(2): 307-324.

Ferlie, E., L. Fitzgerald, M. Wood and C. Hawkins (2005). "The non-spread of innovations: The mediating role of professionals." *Academy of Management Journal* 48(1): 117-134.

Ferlie, E., G. McGivern and L. Fitzgerald (2012). "A new mode of organizing in health care? Governmentality and managed networks in cancer services in England." *Social Science & Medicine* (1982) 74(3): 340-347.

Ford, J. D. and L. W. Ford (2010). "Stop blaming resistance to change and start using it." *Organizational Dynamics* 39(1): 24-36.

Ford, J. D., L. W. Ford and A. D'Amelio (2008). "Resistance to change: The rest of the story." *Academy of Management Review* 33(2): 362-377.

Fund., T. K. (2014). *The NHS budget and how has it changed*.

Gill, R. (2002). "Change management--or change leadership?" *Journal of change management* 3(4): 307-318.

Goleman, D. (2003). "*What makes a leader." Organizational Influence Processes* (Porter, LW, et al. Eds.), New York, ME Sharpe: 229-241.

Goll, I. and A. Rasheed (1997). "Rational decision-making and firm performance: The moderating role of environment." *Strategic Management Journal* 18(7): 583-591.

Grant, R. (2003). "Strategic Planning in a Turbulent Environment: Evidence from The Oil Majors." *Strategic Management Journal* 24: 491.

Hair, Joseph F., Rolph E. Anderson, Ronald L. Tatham, and C. William. Black (1998), "*Multivariate data analysis*." Upper Saddle River, NJ: Prentice. 577-664.

Hambrick, D. and A. Cannella Jr (1989). "Strategy implementation as substance and selling." *The Academy of Management Executive*: 278-285.

Hanbury, A., C. Thompson, P. M. Wilson, K. Farley, D. Chambers, E. Warren, J. Bibby, R. Mannion, I. S. Watt and S. Gilbody (2010). "*Study protocol Translating research into practice in Leeds and Bradford (TRiPLaB): a protocol for a programme of research*."

Hargrave, T. J. and A. H. Van de Ven (2006). "A collective action model of institutional innovation." *Academy of Management Review* 31(4): 864-888.

Harvey, G., L. Fitzgerald, S. Fielden, A. McBride, H. Waterman, D. Bamford, R. Kislov and R. Boaden (2011). "The NIHR collaboration for leadership in applied health research and care (CLAHRC) for Greater Manchester: combining empirical, theoretical and experiential evidence to design and evaluate a large-scale implementation strategy." *Implement Sci* 6: 96.

Heracleous, L. (2000). "The role of strategy implementation in organization development." *Organization Development Journal* 18(3): 75-86.

Herazo, B., G. Lizarralde and R. Paquin (2012). "Sustainable development in the building sector: A Canadian case study on the alignment of strategic and tactical management." *Project Management Journal* 43(2): 84-100.

Hrebiniak, L. (2005). *Making strategy work: A guide to effective execution and change*, Upper Saddle River: Wharton School Publishing.

Hrebiniak, L. G. (2006). "Obstacles to effective strategy implementation." *Organizational Dynamics* 35(1): 12-31.

Iacobucci, G. (2015). "NHS England announces 29 sites to spearhead integrated care models*." BRITISH MEDICAL JOURNAL* 350: h1362.

Jacobs, B. D. (1996). "A Bureau-Political Model of Local Networks and Public/Private Partnerships: Responses to Crisis and Change." *Journal of Contingencies and Crisis Management* 4(3): 133-148.

Jacobs, S., P. Rouse and M. Parsons (2014). "Leading change within health services: The theory behind a systematic process for leading the implementation of new services within a network structure." Leadership in Health Services 27(2): 72-86.

Jarle, E., J. Bjorn Helge, T. B. Paul and N. Odd Arne (2008). "Growing transformational leaders: exploring the role of personality hardiness." *Leadership & Organization Development Journal* **29**(1): 4.

Johnson, R. B. and A. J. Onwuegbuzie (2004). "Mixed methods research: A research paradigm whose time has come." *Educational Researcher* 33(7): 14-26.

Johnson, G., Whittington, R., Angwin, D., Regner, P., Scholes, K., & Pyle, S. (2013). *Exploring strategy*: text and cases. Pearson.

Krebs, D. L. and D. T. Miller (1985). "*Altruism and aggression." The handbook of social psychology* 2: 1-71.

Langley, A. and J.-L. Denis (2011). "Beyond evidence: the micropolitics of improvement." *BRITISH MEDICAL JOURNAL Quality & Safety* 20(Suppl 1): i43-i46.

Lannon, C. M. and L. E. Peterson (2013). "Pediatric collaborative networks for quality improvement and research." *Academic Pediatrics* 13(6): S69-S74.

Lance, C. E. (2011). More statistical and methodological myths and urban legends. *Organizational Research Methods*, 14(2), 279-286.

Lantz, B. (2013). The large sample size fallacy. *Scandinavian Journal of Caring Sciences*, 27(2), 487-492.

Lester, D. L. and M. L. Menefee (2014). "Rural sourcing in North Carolina: promoting economic sustainability." *International Journal of Sustainable Strategic Management 4(3): 210-220.*

Long, J. C., F. C. Cunningham, P. Carswell and J. Braithwaite (2014). "Patterns of collaboration in complex networks: the example of a translational research network." *BMC Health Services Research* 14(1): 225.

Manning, T. (2013). "A "contingent" view of leadership: 360 degree assessments of leadership behaviours in different contexts." *Industrial and Commercial Training* **45**(6): 343-351.

Malby, R., K. Mervyn and L. Pirisi (2013). "How professionals can lead networks in the NHS." *International Journal of Leadership in Public Services*, The 9(1/2): 4-4.

Mann, R. D. (1959). A review of the relationship between personality and performance in small groups. *Psychological Bulletin, 56*, 241–270.

Mervyn, K. and N. Amoo (2014). Brief Literature Review on Improvement at Systems Level. *Leeds Institute for Quality Healthcare*.

Miller, C. C. and L. B. Cardinal (1994). "Strategic Planning and Firm Performance: A Synthesis of More than Two Decades of Research." *The Academy of Management Journal* 37(6): 1649-1665.

Mintzberg, H. (1994a). "The Fall and Rise of Strategic Planning." *Harvard Business Review* 72: 107-114.

Mitchell, S. M. and S. M. Shortell (2000). "The governance and management of effective community health partnerships: a typology for research, policy, and practice." *Milbank Quarterly* 78(2): 241-289.

Nease, Donald E., et al. "Sustainability of depression care improvements: success of a practice change improvement collaborative." *The Journal of the American Board of Family Medicine* 23.5 (2010): 598-605.

O'Cathain, A., E. Murphy and J. Nicholl (2010). "Three techniques for integrating data in mixed methods studies." *BRITISH MEDICAL JOURNAL* 341.

Øvretveit, J. and N. Klazinga (2013). "Linking research to practice: the organisation and implementation of the netherlands health and social care improvement programmes." *Health Policy* 109(2): 175-186.

Owens, Bradley P., and David R. Hekman. "Modeling how to grow: An inductive examination of humble leader behaviors, contingencies, and outcomes." *Academy of Management Journal* 55.4 (2012): 787-818.

Parnell, J. A. (2008). "Sustainable strategic management: construct, parameters, research directions." *International Journal of Sustainable Strategic Management* 1(1): 35-45.

Paroutis, S., L. A. Franco and T. Papadopoulos (2015). "Visual interactions with strategy tools: producing strategic knowledge in workshops." *British Journal of Management* 26(S1): S48-S66.

Pearce, J. A., E. B. Freeman and R. B. Robinson (1987). "The Tenuous Link Between Formal Strategic-Planning and Financial Performance." *Academy of Management Review* 12(4): 658-675.

Pearson, Christine M., and Judith A. Clair. "Reframing crisis management."*Academy of management review* 23.1 (1998): 59-76.

Phillips, P. A. and L. Moutinho (2000). "The Strategic Planning Index: A Tool for Measuring Strategic Planning Effectiveness." *Journal of Travel Research* 38(4): 369-379.

Plsek, P. E. and T. Wilson (2001). "Complexity science: complexity, leadership, and management in healthcare organisations." *British Medical Journal* 323(7315): 746.

Porter, M. E. (2010). "What is value in health care?" *New England Journal of Medicine* 363(26): 2477-2481.

Poissant, L., S. Ahmed, et al. (2010). "Synergizing expectation and execution for stroke communities of practice innovations." *Implementation Science* 5.

Pronovost, P. J. and D. W. Hudson (2012). "Improving healthcare quality through organisational peer-to-peer assessment: lessons from the nuclear power industry." *British Medical Journal Quality & Safety*: bmjqs-2011-000470.

Raelin, Joseph A (2012). "Dialogue and deliberation as expressions of democratic leadership in participatory organizational change." *Journal of Organizational Change Management* 25.1 (2012): 7-23.

Roberts, Cynthia. "Leadership Development: Education, Emancipation, Expectations, and Ethics." *Organization Development Journal* 33.1 (2015).

Rosen, R., J. Mountford, G. Lewis, R. Lewis, J. Shand and S. Shaw (2011). "Integration in action: four international case studies." *Nuffield Trust.*

Rosenthal, Seth A., and Todd L. Pittinsky. "Narcissistic leadership." *The Leadership Quarterly* 17.6 (2006): 617-633.

Rowley, E., R. Morriss, G. Currie and J. Schneider (2012). "Research into practice: Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Nottinghamshire, Derbyshire, Lincolnshire (NDL)." *Implementation Science* 7.

Schaltegger, S., F. Lüdeke-Freund and E. G. Hansen (2012). "Business cases for sustainability: the role of business model innovation for corporate sustainability." *International Journal of Innovation and Sustainable Development* 6(2): 95-119.

Senge, P. M. and J. D. Sterman (1992). "Systems thinking and organizational learning: Acting locally and thinking globally in the organization of the future." *European journal of operational research* 59(1): 137-150.

Spillan, John E. "An Exploratory Model for Evaluating Crisis Events and Managers' Concerns in Non-Profit Organisations." *Journal of contingencies and crisis management* 11.4 (2003): 160-169.

Spillan, John, and Michelle Hough. "Crisis planning in small businesses: Importance, Impetus and Indifference." *European Management Journal* 21.3 (2003): 398-407.

Spillan, John E. "Crisis planning in the non-profit sector: Should we plan for something bad if it may not occur?" *Southern business review* 27.2 (2002): 18.

Shah, S. K. and K. G. Corley (2006). "Building Better Theory by Bridging the Quantitative–Qualitative Divide." *Journal of Management Studies* 43(8): 1821-1835.

Stead, J. G. and W. E. Stead (2008). "Sustainable strategic management: an evolutionary perspective." *International Journal of Sustainable Strategic Management* 1(1): 62-81.

Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology, 25*, 35–71.

Stokes, R. and M. van der Windt (2011). "Linking corporate sustainability planning and sustainable development at Brisbane Airport, Australia." *International Journal of Aviation Management* 1(1-2): 70-88.

Sullivan, H., P. Williams and S. Jeffares (2012). "Leadership for collaboration: situated agency in practice." *Public management review* 14(1): 41-66.

Teece, David J. "Competition, cooperation, and innovation: Organizational arrangements for regimes of rapid technological progress." *Journal of Economic Behavior & Organization* 18.1 (1992): 1-25.

Teece, David J. "Business models, business strategy and innovation." *Long range planning* 43.2 (2010): 172-194.

The Commonwealth Fund. (2014). *Fund Reports* 2014.

The Economist Intelligence Unit. (2014). *World industry outlook: Healthcare and pharmaceuticals.*

Thomas, D. (2006). "A General Inductive Approach for Analyzing Qualitative Evaluation Data " *American Journal of Evaluation* 27(2): 237-246

Thomas, L. and V. Ambrosini (2015). "Materializing strategy: the role of comprehensiveness and management controls in strategy formation in volatile environments." *British Journal of Management* 26(S1): S105-S124.

Thune, S. S. and R. J. House (1970). "Where Long-Range Planning Pays Off - Findings of A Survey Of Formal, Informal Planners." *Business Horizons* 13(4): 81-87.

Timmerman, T., T. Verrall, L. Clatney, H. Klomp and G. Teare (2010). "Taking a closer look: using statistical process control to identify patterns of improvement in a quality-improvement collaborative." *Quality and Safety in Health Care* 19(6): 1-6.

Tuckman, B. W. (1965). "Developmental sequence in small groups." *Psychological Bulletin* 63(6): 384-399.

Tuckman, B. W. and M. A. C. Jensen (2010). "Stages of small-group development Revisited1." *Group Facilitation* (10): 43.

Umble, K., E. L. Baker, S. J. Diehl, S. Haws, D. Steffen, S. Frederick and C. Woltring (2011). "An Evaluation of the National Public Health Leadership Institute-1991-2006: Part II. Strengthening Public Health Leadership Networks, Systems, and Infrastructure." *Journal of Public Health Management and Practice* 17(3): 214-224.

Vaill, P. B. (1982). "The purposing of high-performing systems." *Organizational Dynamics* 11(2): 23-39.

van Belle, G., & Millard, S. P. (1998). *STRUTS: Statistical rules of thumb. Departments of Environmental Health and Biostatistics*, University of Washington

Walumbwa, F. O., B. J. Avolio, W. L. Gardner, T. S. Wernsing and S. J. Peterson (2008). "Authentic Leadership: Development and Validation of a Theory-Based Measure." *Journal of Management* **34**(1): 89-126.

Wilson, Tim, Donald M. Berwick, and Paul D. Cleary. "What do collaborative improvement projects do? Experience from seven countries." *The Joint Commission Journal on Quality and Patient Safety* 29.2 (2003): 85-93.

Wheeler, D. S., M. J. Giaccone, N. Hutchinson, M. Haygood, P. Bondurant, K. Demmel, U. R. Kotagal, B. Connelly, M. S. Corcoran and K. Line (2011). "A hospital-wide quality-improvement collaborative to reduce catheter-associated bloodstream infections." *Pediatrics:* peds. 2010-2601.

Whittington, R. and L. Cailluet (2008). "The Crafts of Strategy: Special Issue Introduction by the Guest Editors." *Long Range Planning* 41(3): 241-247.

Williams, I. (2011). "Organizational readiness for innovation in health care: some lessons from the recent literature." *Health Services Management Research* 24(4): 213-218.

Zachariadis, M., E. Oborn, M. Barrett and P. Zollinger-Read (2013). "Leadership of healthcare commissioning networks in England: a mixed-methods study on clinical commissioning groups." BRITISH MEDICAL JOURNAL open 3(2).

APPENDIX

Fig 3: **Correlations and Descriptive Statistic (*n*=33)[1]**

	Correlations					Descriptives			
	L&S 1	**L&S 2**	**L&S 3**	**L&S 4**		**Mean**	**Medium**	**Mode**	**S.D.**
L&S 1	1					6.24	6	6	1.444
L&S 2	0.474**	1				6.10	6	6	1.458
L&S 3	0.551**	0.593**	1			6.67	7	8	1.580
L&S 4	0.564**	0.369*	0.431*	1		6.27	7	6	1.613

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: Quantitative Scale used is 1 to 10.

Fig 4: Differences of Means Test of First and Second Quantitative Survey

	(*t*-test)			
	t	df	Sig. (2-tailed)	Mean Difference
L&S 1	-0.934	17.342	0.363	0.48
L&S 2	-2.257	20.435	0.047	0.84
L&S 3	-2.312	20.466	0.031	1.24
L&S 4	-2.365	25.720	0.026	1.55

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[1] An acknowledgement is provided in management research that the use of a large sample size is preferable in the research process while at the same time given unlimited resource and time, researchers now sometimes have to work with small sample sizes (De Winter, 2013). Most often, the issues of smaller sample size is the fear of bias to statistical test and the risk of making an incorrect inference from the resulting p values arising from the test of hypothesis where one rejects the null hypothesis of no difference if $p < 0.05$ (Hair et al, 1998). However, in the use of *t-test* or *differences of means* test like the type of test in this study, De Winter (2013, 1) suggests that $n \leq 5$ may not be deemed too small and we should be able to carry out studies with small samples. Furthermore, statistician had considered a sample to be too small when $n < 30$ (van Belle and Millard 1998; Lance 2011). In this regards we can undertake our quantitative phase of this study with a sample size $n = 33$.

Fig 5: Exploratory Factor Analysis (EFA) Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.753
Bartlett's Test of Sphericity	Approx. Chi-Square	37.722
	df	6
	Sig.	0.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.496	62.398	62.398	2.496	62.398	62.398
2	0.698	17.438	79.836			
3	0.424	10.597	90.433			
4	0.383	9.567	100.000			

Extraction Method: Principal Component Analysis (PCA).

Component Matrix^a

	Component
	1
L&S 1	0.826
L&S 2	0.770
L&S 3	0.822
L&S 4	0.738

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Fig 6: Reliability Assessment

Reliability Statistics

Cronbach's Alpha	N of Items
0.788	4