Improvement attributes in healthcare: implications for integrated care

Patrick John Harnett
National Integrated Care Programme, Older Persons, Social Care Division,
Health Service Executive, Dublin, Ireland

Abstract

Purpose – Healthcare quality improvement is a key concern for policy makers, regulators, carers and service users. Despite a contemporary consensus among policy makers that integrated care represents a means to substantially improve service outcomes, progress has been slow. Difficulties achieving sustained improvement at scale imply that methods employed are not sufficient and that healthcare improvement attributes may be different when compared to prior reference domains. The purpose of this paper is to examine and synthesise key improvement attributes relevant to a complex healthcare change process, specifically integrated care.

Design/methodology/approach – This study is based on an integrative literature review on systemic improvement in healthcare.

Findings – A central theme emerging from the literature review indicates that implementing systemic change needs to address the relationship between vision, methods and participant social dynamics.

Practical implications – Accommodating personal and professional network dynamics is required for systemic improvement, especially among high autonomy individuals. This reinforces the need to recognise the change process as taking place in a complex adaptive system where personal/professional purpose/meaning is central to the process.

Originality/value – Shared personal/professional narratives are insufficiently recognised as a powerful change force, under-represented in linear and rational empirical improvement approaches.

Keywords Integrated care, Improvement models

Paper type Literature review

Introduction and context

Healthcare quality remains a persistent concern for policy makers, regulators and carers and is particularly important for vulnerable cohorts (Silvester et al., 2014). Quality is typically defined across three domains: individual care experience, cost and population health (Stiefel and Nolan, 2012), and has been explored from several perspectives including patient experience and outcomes (Ovretveit, 2011), continuous performance improvement (Margolis et al., 2010; Alexander et al., 2006) and culturally (Parry, 2014; Batalden and Davidoff, 2007). Placing quality in a broader sociological perspective, Shojania and Dixon-Woods (2013) suggest that healthcare quality is an emergent healthcare property, amplified by Miller and Miller (1991) and D’Souza and Sequeira (2011) who concur that adverse events result from system failures rather than rogue individuals. To address healthcare quality systemically, reference is made to high-reliability organisations whereby safety cultures result from collective mindfulness (Chassin and Loeb 2013; Buchanan, 2003). Consequently, attention is paid to the healthcare organisation, typically focused on leadership and process (Anderson et al., 2011; D’Souza and Sequeira, 2011; Benson, 2005; Shojania and Dixon-Woods, 2013; Parry, 2014), accreditation (Serrano, 2010), culture (Christiansen et al., 2010; Holden, 2005) and regulation (Chassin, 2013; Chuang and Inder, 2009). In Ireland, as elsewhere, healthcare experience is under scrutiny (Table I) with multi-morbidity and healthcare consumption increasing as the population ages (Nolte, 2015) (Figure 1).

Access to urgent care, a recognised quality barometer, typically indicates systemic problems (WHO 2010, p. 6), e.g., prolonged waits for patients over 75 years has significant
clinical implications such as poorer outcomes (Sprivulis et al., 2006; Richardson and Mountain, 2009; Imison et al., 2012; Clegg et al., 2013). Internationally, systemic solutions to access problems include integrating care for older people (Wodchis et al., 2015; Naylor et al., 2015; Goodwin, 2013). Ireland’s Integrated Care Programme for Older Persons was established, which aimed to implement interventions that enable older persons to access planned, timely care (Health Service Executive, 2015, p. 13). Within this programme’s design, it was recognised that systemic improvement is challenging and complex. The author therefore conducted an integrative literature review, focused on the attributes required for systemic implementation, which in turn informs the approach to programme implementation.

**Literature search strategy and screening criteria**
Publications on improvement attributes were located using: Leadership AND Culture AND Quality Improvement AND Healthcare. Inclusion criteria were: English language; peer reviewed; systemic in nature and published between 2000 and 2015. A specific, secondary search (including grey literature) included prominent healthcare quality improvement, leadership or culture authors. Articles with the term “transformation” when used in systematic improvement were included, as attributes are similar. The PRISMA approach (Moher et al., 2009) was used to select and funnel relevant articles. Sociological and business journal databases were also included where relevant: Academic Search Complete; Allied and Complementary Medicine Database; Biomedical Reference Collection, Expanded; Business Abstracts with Full Text (H.W. Wilson); CINAHL Plus with Full Text; MEDLINE; PsycARTICLES; and PsycINFO. The initial search yielded 32,860 articles, refined to 8,727 for screening. Consequently, 287 abstracts were reviewed in detail.

<table>
<thead>
<tr>
<th>Age group</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2032</th>
<th>% change 2011-2031</th>
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<tbody>
<tr>
<td>65 and over</td>
<td>532</td>
<td>624</td>
<td>732</td>
<td>855</td>
<td>991</td>
<td>86.4</td>
</tr>
<tr>
<td>85 and over</td>
<td>58</td>
<td>70</td>
<td>85</td>
<td>104</td>
<td>136</td>
<td>132.8</td>
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<tr>
<td>All ages</td>
<td>4,575</td>
<td>4,687</td>
<td>4,875</td>
<td>5,042</td>
<td>5,187</td>
<td>13.4</td>
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**Source:** Central Statistics Office (Ireland), population projections (2011-2031)

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**Table I.** Percentage increase in older aged cohort (2011-2031)

**Figure 1.** Waiting times for bed increases with age, all hospitals 2014
Articles published prior to 2000 were excluded. Articles too narrow in focus (e.g. a single disease or a specific professional concern) or the core focus was not leadership, culture and quality improvement were excluded. The search yielded 42 useable articles, i.e., selected for their focus on systemic change and/or where leadership, culture and quality improvement are an explicit theoretical focus. The annotated bibliography is available on request from author (Figure 2).

**Findings**

Five broad domains emerged from the review (Figure 3), which fell into the following domains: process, organisational, cultural, leadership and personal/professional. Whilst articles selected included at least one domain, 50 per cent ($n = 21$) combined three domains, with a relatively even distribution across four domains. One in five articles (21 per cent, $n = 9$) covered either four or five domains but only 5 per cent ($n = 2$) addressed all five domains.

**Process domain**

This domain is typically focused on checklists, protocols and standardisation. Whilst Ferlie and Shortell (2001) felt that a process checklist could not have the full attributes necessary to capture improvement dynamics, some authors, such as Luxford *et al.* (2011), advocated accountability, leadership and patient/family engagement. Others, such as Haines *et al.* (2004), Heenan *et al.* (2012) and Harrison and Daly (2009), emphasised data and technology, suggesting

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**Figure 2.** The PRISMA-style systematic literature review process.
a strong correlation between technology-enabled knowledge management and improvement. Kennedy et al. (2011) suggested that data utilisation strengthens accountability, thus promoting certain values and behaviour. However, Myers and Shannon (2012) indicated that business intelligence is insufficient when organisational culture does not support improvement. Golemboski (2011) and Brandrud et al. (2011) concluded that improvement is based on reliable information, used by staff that possess improvement knowledge. In summarising process attributes, Brennan et al. (2012) developed a conceptual framework, which included readiness for change, organisational culture, quality improvement implementation, organisational assessment and organisational learning. This approach was reinforced by Best et al. (2012) who concluded that five simple (improvement) rules are necessary: blending designated leadership with distributed leadership; establish feedback loops; attending to organisational history; engaging physicians; and including patients and families in the process.

**Personal/professional domain**
This domain reflects attributes such as values, meaning, autonomy and purpose. Addressing clinician perspectives, Adler et al. (2008) described the tension between (professional) autonomy and organisational priorities. Corrigan and McNeill (2009) posited
that professional loyalty is placed before organisational improvement, proposing professional autonomy draws on loyalty to patients and the profession as a first principle. Adler et al. (2008) observed that professional networks rely on collegial structure to mobilise power and maintain governance over the profession rather than organisational structures. Grant (2011), Dixon-Woods et al. (2014) and Ibrahim et al. (2013) suggested that junior doctors, wishing to preserve a distinct identity separate from organisational requirements, are largely shaped by compliance with superiors. Callanan et al. (2002) and Poddar (2013) appealed to clinical leaders to bridge the management and clinician divide. These studies, resonant with Ham (2003, 2008), explored healthcare leadership context and highlighted the need to engage clinicians in organisational change, thus avoiding the dominant clinician vs management paradigm. Callanan et al. (2002) highlighted how hidden incentives (financial or otherwise) militated against improvement and recommended initiatives that span professional and managerial boundaries. Clinical governance, fuelled by consumer awareness and self-regulation failures (Flynn, 2002), provided an opportunity to address a perceived deficit in professional accountability. However, whilst a focus on clinical performance signalled a shift in relationship between managers and clinicians, Dixon-Woods et al. (2014) revealed how performance targets result in false comfort from quantitative metrics. In contrast, Clark et al. (2013) and Swartling and Poksinska (2013) suggested that meaningfully engaging employees enhances personal motivation, which is more effective than enforcing improvement through regulation. In that regard, successful leaders value employee input and placed decision making in their hands, thus creating cultures that deliver sustained, high-quality services.

Organisational domain
In this domain attributes typically focus on data, information technology, organisational structures and governance. Katz-Navon et al. (2005), Kvist et al. (2013), Psychogios et al. (2009) and Lemieux-Charles et al. (2002) focused on how leadership can impact positively on organisational improvement. Frykman et al. (2014) and Øvretveit (2011) indicated that improvement is typically based on common sense (or intuition or empiricism). Hofmeyer (2013) proposed that research has yet to identify the specific mechanisms by which leadership behaviour can have a positive influence, citing building social capital by enhancing trust and open communication. This resonates with Greenhalgh et al. (2009) who emphasised the relationships characterised by trust and flexibility, combined with incentives that reward performance. Glickman et al. (2007) described key attributes, including: design; incentives; and information management. McCarthy and Blumenthal (2006) and Lynn (2011) advocated transparent data, learning collaboratives and listening to patient voices combined with regulation, reward and experience-based wisdom. Bradley et al. (2009) and Pascale et al. (2010) assumed that improvement competencies already exist in organisations and can be mobilised in the right conditions. Øvretveit (2011), Leviton (2011), Booth et al. (2013) and Nadeem et al. (2013) suggested that research into what works is hampered by system complexity and contextual difference. Consequently, health systems are increasingly recognised as complex adaptive systems (Benson, 2005; Weberg, 2012). Holden (2005) defined complexity and adaptivity using individuals who collectively share an environment, who may act independently but whose actions will co-impact. Complexity theory suggests that the key to understanding systems is through recognising patterns and interactions among system agents and that these relationships are not easily influenced by external forces. San Martín-Rodríguez et al. (2005) classified these as interactional factors (interpersonal relationships between team members), organisational factors (conditions within the organisation) and systemic factors (conditions outside the organisation). Consequently, any attempt to improve should benefit from incorporating an organisational narrative that draws on these interactions.
Leadership domain
In this domain attributes typically focus on vision, style and philosophy. Leadership’s influence on improving healthcare is ubiquitous and has received considerable attention (Young, 2000; DaCosta, 2012; Denis et al., 2012; Erskine et al., 2013; Latham, 2013). LeBrasseur et al. (2002), Kvist et al. (2013) and Frankel et al. (2006) proposed that leaders drive values, values drive behaviours and behaviours drive performance. Style is important; Bohan and Laing (2012) advocated honest, inclusive, supportive styles. West et al. (2014) and West (2014) outlined how leader-staff engagement results in improved job satisfaction, improved organisational commitment, reduced staff turnover and improved employee well-being. Complexity leadership is gaining traction in healthcare (Denis et al., 2012; Weberg, 2012), which advocates a shift from traditional, hierarchical leadership to complexity leadership involving shared, distributed and collective leadership. West et al. (2014) focused on collective leadership, which seeks to empower staff to take responsibility for high-quality care. West (2014) proposed that collective leadership, combined with dynamic learning culture, shapes behaviour more effectively, consistently and profoundly than explicit targets or regulation. In this characterisation, collective leadership includes: strong strategic narrative; attending to trust and fairness; having compassion for staff; and delegating responsibility. Erskine et al. (2013) and Veronesi and Keasey (2011) expressed concerns that failure to understand complexity, coupled with a failure to distribute leadership tasks to all levels, will damage managerial-clinical relations and undermine sustainable improvements. Consequently, complexity leadership recognises leadership as a social process where knowledge trumps position and where interactions among people in complex systems produce valuable, new and unpredictable capabilities that cannot be realised when the parts act alone.

Cultural domain
In this domain attributes address beliefs, stories and group norms. Kaplan et al. (2010) and Edwards et al. (2014) reflected on the dynamics within professional networks, which are characterised by multiple interwoven strands, which Crema and Verbano (2013) attempted to untangle by listing key attributes: organisation and communication; process management; error management; and customer/patient management. Spiers et al. (2010), Lee et al. (2010) and Schaffer et al. (2013) explained that the psychological contract with managers depends on rewards and respect for the values central to professional identity. McCormack et al. (2002) and Christiansen et al. (2010) recommend a learning culture, which pays attention to individual and group needs. From an anthropological perspective, Veldsman (2013), Bate (2004) and Buchanan (2003) explored how organisational narratives shape culture and how group solidarity is built on the personal stories, unifying the narrative that emerges from sharing stories over time. Stories are therefore presented as a medium through which multiple professional identities coalesce under a common social vision and, if skilfully harnessed, can drive improvement that acquires a cultural identity, which is included in the organisational DNA.

Discussion
Implementing conventional improvement science methods, such as Lean Six Sigma, is often presented as scientifically rational, with a linear, reductionist epistemology and process (De Graffenried-Ruffin, 2000; Clark et al., 2013; Fursule et al., 2012; Feng and Manueal, 2007). The argument for adopting this approach from its original domains is compelling when one draws parallels with reliable industries, including harnessing technology and data to improve healthcare through task analysis, standardised processes and best practices. Scoville and Little (2014), for example, suggested that value stream mapping and process redesign remain central to improvement methods; they also
acknowledge complexity and social network theories, and motivation roles, and the need for enhanced improvement frameworks.

Greenhalgh et al. (2009, 2012) and Øvretveit et al. (2011) found few empirical systemic improvement healthcare studies, which allow generalisation. Whilst Wang et al. (2006) provided useful insights into aligning organisational factors, along with significant literature on discrete concepts that can theoretically contribute to improvement, there is limited literature on effectively combining attributes that deliver systemic change. The difficulty in simultaneously addressing leadership attributes, cultural characteristics, organisational structures, personal-professional issues and processes is a reflection on healthcare complexity and associated difficulty in achieving improvement. Dominant organisational and process foci (governance, information technology and data) that tend to address more concrete issues appear reassuring but are insufficient. Øvretveit et al. (2011), for example, made a compelling case for understanding improvement conditions, depending on the change. In that regard, Langley and Denis (2011) drew attention to the social and micro-political dimensions that improve healthcare. They suggested that initiatives will fail unless they account for interests, values and power relationships. This is essentially based on a social constructivist perspective, whereby reality is shaped by shared social (professional) narratives. Dixon-Woods et al. (2011) addressed this comprehensively by combining things that must be done (e.g. evidence-based pathways), whilst cultivating a grass roots professional social movement that endorses the new approach. Only two articles (Dixon-Woods et al., 2011, 2012) addressed all five domains which, when deployed collectively, comprise a substantially complete healthcare improvement framework. The Dixon-Woods et al. (2011) recommendations have a rational, empirical bias, the other recommendations point to issues such as purpose, motivation, meaning, belonging and identity.

Rouse (2008) and Meyer (2008) advocated behaving more like a farmer than an engineer in cultivating healthcare improvement. This approach advocates building a trusted network, whose connections build commitment to a common purpose, which is different from a standards-driven approach that seeks to engage professional social networks through personal meaning and purpose.

Conclusion
A central theme emerging from the review is that implementing systemic change as a rational, linear, planned process does not sufficiently accommodate organisational dynamics. The attributes within the five domains identified in the literature review are consistent with Deming's (1990, 1993) original thesis on improvement attributes and his direct healthcare experience. It seems that a focus on hard improvement attributes (governance, data, standards, processes) has neglected soft but essential attributes outlined by Deming; these attributes typically exist within the cultural and professional domain and include values, belonging, purpose, motivation and autonomy. It appears that healthcare leaders failed to recognise complexity as a context, or they have not cultivated a culture that promotes purpose and meaning through collective leadership. The literature points to recognising healthcare improvement as taking place in a complex adaptive system as a first principle (Holden, 2005; Weberg, 2012; Benson, 2005). The author summarises attributes specific to healthcare improvement, identified in the literature (Figure 4). The recommendations arising from this review are intended to inform systemic change, in this case implementing an integrated care programme for older people, including building a social network between personnel involved, gathering key integration indicators and refining the approach to accommodate local conditions. The process will be evaluated after three years; a key component will focus on the impact and importance of personal motivation, meaning and purpose, operating within and influenced by trusted personal/professional networks.
Recommendations

A key insight in the integrated care literature is the need to reframe the improvement approach as a social problem, to be addressed through a professional grassroots movement, thus, framing improvement as a sociological exercise. This is a key differentiation from more linear improvement approaches. There is a need to recognise the social dynamics associated with autonomous professional networks and to ensure that any improvement approach is sympathetic to the culture and values that underpin this network. Improvement approaches to systemic change also need to accommodate the hidden dynamic within personal/professional networks, whereby shared narratives on one’s personal/professional purpose and meaning are powerful, hidden forces, which improvement science needs to incorporate. Whilst good leadership is intuitively an essential requirement for improvement, Øvretveit (2008), West et al. (2014), West (2014) and Denis et al. (2012) propose that collective leadership has to be embraced as the preferred approach to reflect healthcare’s complexity. This means recognising that expertise, not status, determines leadership roles in each improvement effort. Finally, technology, structure, process and data are essential but not sufficient for systemic improvement. The things that are necessary, referred to by Dixon-Woods et al. (2011) as hard edges, such as agreed care pathways, must be built on common purpose and meaning, which capitalises on trusted personal/professional networks. This will require cultivation, particularly where tensions between managerial and clinical roles exist.

Limitations

Complexity theory and integrated care have been introduced, but the opportunity to provide a more complete exploration is limited not simply by the word count but by the review’s focus. The author recognises that systemic healthcare improvement is affected by several disciplines including sociology, psychology and anthropology. A significant challenge is to synthesise the systemic improvement literature and not omit key commentators. The author sought to include key sources in the field and the search strategy may have limited the results.
References


**Corresponding author**

Patrick John Harnett can be contacted at: pjharnett.sdu@hse.ie