# Clinical leadership effectiveness, change and complexity

**This article explores how an understanding of approaches to leading and managing change and complexity science can help clinical leaders engage with and manage change in complex environments and systems more effectively.**

## Introduction

The philosopher Heraclitus of Ephesos, who lived in 500 BC, noted that 'life is flux'. Commonly translated as 'change is the only predictable constant', Kouzes and Posner (2007) remind us that effective leaders are those who are comfortable with and understand change.

Traditionally, change itself has been described as being either 'developmental', 'transitional' or 'transformational', each of which can be relevant in different contexts for individuals, teams and organizations in response to external and internal demands, pressures and drivers. Without such responsiveness, there is likely to be stagnation or even failure to achieve the vision. This requires leaders to demonstrate the willingness and capability to be flexible, to scan the horizon, and pay attention to political, economic, sociological and technological trends. Establishing and maintaining this 'adaptability' is crucial for change leaders and an understanding of the change literature, theories and models will be core to maintaining leadership effectiveness.

The more traditional, or 'linear' models, focus on helping people and organizations plan for and 'manage' change. This is useful when changes are small scale, relatively straightforward or can be approached using project management techniques. Often, however, particularly within health care, leaders face more complex changes or those with unclear or uncertain features. In these situations, alternative approaches, such as those from systems thinking and complexity science, may be more helpful as they help to facilitate 'emergent' change. Each type of change requires different styles, approaches and behaviours from leaders, which must be used effectively to successfully manage its implementation (Goleman, 2000).

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## Psychological aspects of change

At individual, team or group level, leaders need to pay attention to the psychological aspects of change. This can greatly impact on people's ability to cope with and adapt to changing situations, structures or physical relocations. All change, even when positive, such as taking up a new job or moving to a new locality, involves some loss or grief related to what went before. Responses to change can therefore be compared to Kübler-Ross' five stages of grief during which an individual loses competence (albeit often temporarily) as he/she progresses and comes to terms with the change. Periods of denial, anger, bargaining and depression may need to be worked through before the new situation is finally accepted and full competency is resumed (Kübler-Ross, 1975).

Fisher's (2005) personal transition curve also considers the internal reaction to change. The suggestion here is that people's motivation and outputs can (and should) be anticipated to decline in times of transition and change, and that these are largely dependent on their own perception of historic, current and anticipated experiences. Fullan (2004) reminds leaders to 'appreciate the implementation gap', whereby as people learn new skills by engaging in innovation, they may lose performance, confidence and become reluctant to take on new activities or roles to try and protect this.

Maintaining an awareness and understanding of the stages of loss, transition or competence curves therefore helps leaders to consider how responses to planned or unanticipated changes may affect the implementation timeline and when support mechanisms may be required to help individuals progress and work through this.

## Categories of change

Alongside the psychological effects of change, leaders must also consider the exact type of change itself that is required. Ackerman (1997) categorized change broadly into developmental, transitional and transformational efforts:

- Developmental change involves emergent, continually incremental change which enhances a pre-existing state
- Transitional change involves staged progression from a pre-existing state to a newly desired state
- Transformational change involves radical change, which shifts drastically from a pre-existing state to realize a new state, which may require ongoing adaptation and improvement until the overall vision is realized.

Whatever the context, when a leader is able to identify the type of change needed, he/she can more precisely select an appropriate change model or theory to help guide the development of the implementation strategy. If appropriate, the speed and success of implementation can then be maximized with the resistance and psychological distress minimized where possible.

## Linear models of change

Although not exclusively, developmental or transitional change is often planned and

can be considered 'managed'. In these situations, 'linear models' are most suited and, while numerous strategies, frameworks and models exist, this article discusses two widely-known models.

## Lewin's model of change

Kurt Lewin was one of the early change theorists and described the three basic steps involved in any change: 'unfreezing', the 'change' itself (often referred to as the transition period) and 'refreezing' (*Figure 1*).

Within this model, Lewin (1948) discusses 'drivers' and 'resistors' – drivers are factors that push for change (e.g. a new government policy) and resistors are factors which fight against it (e.g. human factors whereby people do not understand the policy or they cannot see how to implement it locally). Lewin suggests that effective change leaders should focus on limiting and overcoming resistors, rather than persistently adding drivers.

One of the strengths of Lewin's model is its application as a concept rather than a direct implementation strategy. By thinking about what needs to be done in each of the three steps and how to limit resistors, change leaders are better able to initiate, progress and sustain change and understand when to implement more direct strategies as necessary.

## Kotter's eight accelerators

Rather than conceptual, John Kotter's work is more pragmatic and directive towards the required action to achieve change successfully. Those familiar with change management may be aware of Kotter's 'eight steps'. These have been revitalised and modernised into 'eight accelerators', which are self-perpetuating and dynamic in nature (Kotter, 2014). Kotter outlines his vision for a 'dual operating system' within organizations. The first: a more traditional hierarchical management structure, the second: a dynamic system free from bureaucracy capable of rapidly adapting to change. Facilitating this approach are core principles and eight accelerators which act as the practical activity undertaken (*Figure 2*).

Kotter's eight accelerators can be applied to any situation where change is required, for example, introducing a new ambulatory care pathway or home-based clinical service. Using the accelerators in an iterative way (rather than as a checklist) helps emphasize the need for proactive, agile responses to implementing change in rapidly evolving clinical environments and highlights the leader's role in maintaining and injecting momentum or energy to the change process.

***Figure 1. Lewin's three step change model. Adapted from Lewin (1948).***

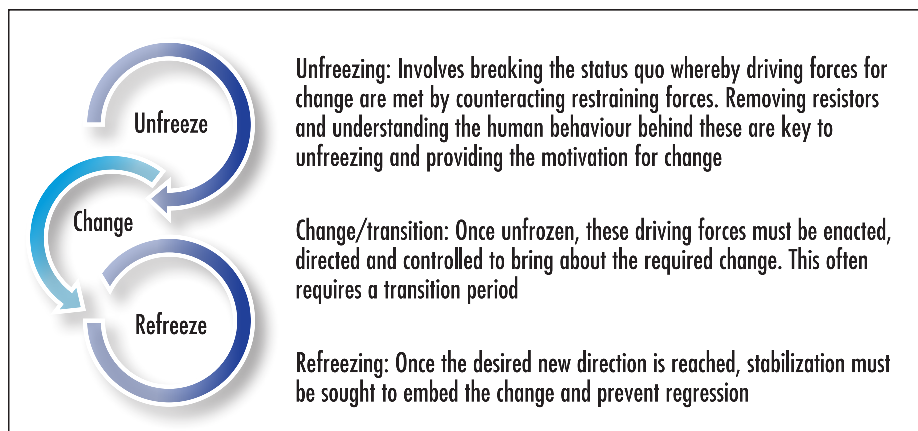
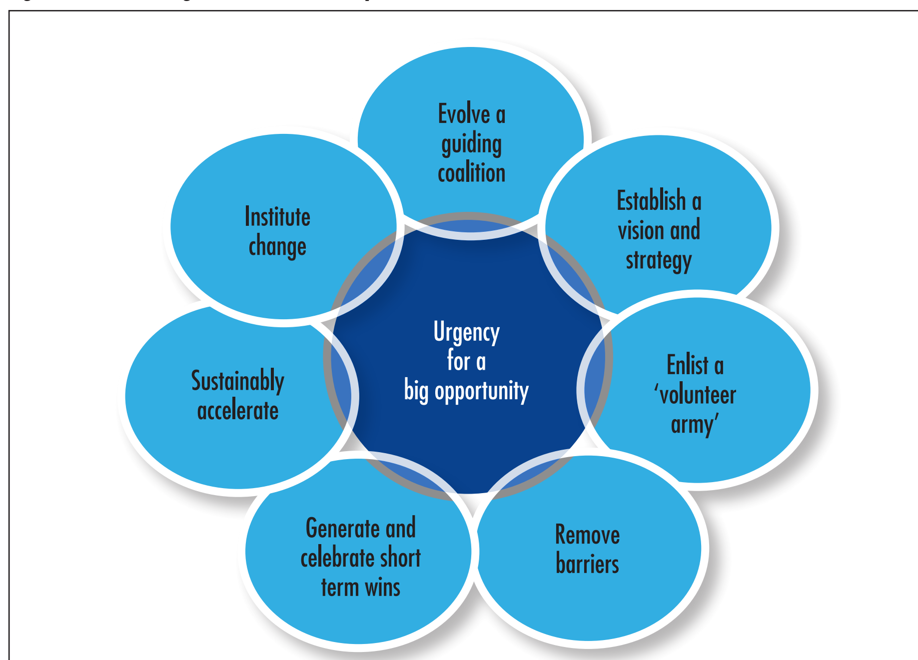



***Figure 2. Kotter's eight accelerators. Adapted from Kotter (2014).***




## Understanding change, complexity and adaptive leadership

Unlike with developmental and transitional change, transformational change is often more complex and requires alternative approaches to that which linear models can offer. The complexity that change leaders working within modern organizations encounter often stems from multifaceted inter-connected systems, not just internally, but externally. Taking a systems perspective is crucial for leaders, for without it, they are unlikely to generate the unique tailored approach which is often required to create the innovative solution to overcome that particular problem, in that particular context. For example, if trying to reduce inpatient stays for older patients, taking a systems perspective may require making changes to emergency admissions, GP referrals, ambulatory care services, increasing point of care diagnostics, training new health workers, improving links between social services and hospital on discharge, and so on.

**'Chaotic systems flit a bit too readily from novelty to novelty; living systems need to consolidate gains.**

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**Predictable, stable systems, by contrast, display none of the panache needed to create new order or even to respond adaptively to creature environments. Complex systems lie between these poles, at the edge of chaos; and they have both panache and stability sufficient to sustain life' (Marion, 1999).**

To aid our understanding further, Bar-Yam (2004) discusses complexity theory which draws from a variety of scientific disciplines and concepts, including physics, chaos theory, eco-biology and mathematics, to formulate four key underlying ideas:

1. The mechanisms of collective behaviour (patterns)
2. A multi-scale perspective (the way different observers or stakeholders describe a system)
3. The evolutionary process that describes complex systems
4. The nature of purposive or goal-directed behaviour.

Within this complexity, a number of writers have considered the types of leadership behaviours and styles that might be most effective. Heifetz et al (2009) discuss the concept of 'adaptive leadership', which acknowledges that leaders work within systems where inherent challenges and political dimensions are faced both internally and externally. Adaptive leaders recognize this and are able to create a culture enabling both the organization and the individuals within it to remain responsive and resilient to them in order to 'thrive' (Heifetz et al, 2009). This concept of thriving is drawn from evolutionary biology which suggests that successful adaptation preserves the essential DNA of a species, discards or regulates DNA which is non-essential or inhibiting, and creates DNA arrangements that enable responsive adaptation to new situations (Heifetz et al, 2009). For health-care leaders, this requires thinking purposefully about what thriving actually means in terms of various stakeholders and the organization itself. Depending on the organization and circumstances, thriving may include: financial efficiency or making a profit, meeting the needs of patients and populations, demonstrating core values or delivering excellent patient care.

Adaptive leaders are able to build on successes of the past, while simultaneously recognizing what is outdated and unnecessary when determining the current and future focus for change. One such technique is to view change from different perspectives and recognize when different approaches or models are needed to diagnose 'problems' and develop strategies to overcome them. Returning to the organizational vision, mission and values are often useful here and tools such as stakeholder analysis, driver diagrams, PESTLE (political, economic, sociocultural, technological, legal and environmental driver) and SWOT (strength, weakness, opportunity and threat) analysis can help systematise and inform the direction of travel.

For the above reasons and more, public expectations and health-care opportunities are rapidly shifting. Leaders need to be mindful and highly tuned into external factors to avoid becoming an 'outlier' and to ensure that their organization remains thriving within the current climate. However, the inevitable innovation and change required for this must be balanced against conservatism and stability; while vital, innovation implemented too extensively and too quickly can be destabilizing, discourage individuals and alienate them from the 'next big thing' as they feel undervalued and displaced when it comes along. When facilitating organizational change, it is essential to attend to the underlying culture and not simply focus on structures and systems. Fullan (2004) suggests six key principles underpinning adaptive leadership:

1. The goal is not to innovate the most: consolidating fewer changes sustainably is preferable to implementing multiple innovations too quickly which are likely to be short lived
2. It is not enough to have the best ideas: remaining insightful so as not push one's own ideas onto others and understanding the importance of providing ongoing motivational support for good ideas (no matter who generated them)
3. Appreciate the implementation dip: understanding and managing the loss of competence and dip in performance which occurs with any change
4. Redefine resistance: listening to different perspectives, building good relationships and working with the creative side of conflict and resistance
5. Reculturing is the name of the game: restructuring is powerful but without addressing the required cultural shifts, sustainable change is unlikely to be achieved. Reculturing challenges the way things are done
6. Never a checklist, always complexity: even when linear, change often becomes complex and new patterns emerge as a result of environmental factors and the unpredictable interaction between 'agents' within it (Fullan, 2004).

More recently, Obolensky (2010) suggested that those working within such complexity should consider shifting from a more traditional oligarchical approach (in which leaders carry out a number of tasks or functions) to one which is polyarchic (in which leaders delegate functions to 'followers' and attend to the process of leadership). His 'four by four' model (*Table 1*) sets out eight principles which at first glance seem paradoxical but, when set in place, create a culture within which change can emerge.

This view broadly coincides with the current conceptions of future leadership within the NHS; one of shared, distributed, collective leadership (West et al, 2014, 2015) and similar reflections by others, stating that the focus should be more on leadership development (social capacity), rather than leader development (individual expertise) (Yukl, 2002; Bolden et al, 2003).

Within complex, post-modern health care, the rhetoric must shift away from one whereby the NHS exists as a machine bureaucracy, focussing on standardizing functions with linear relationships,

**Table 1. A 'four by four model' of complexity principles**

| | |
|---|---|
| Define an underlying purpose | Set clear objectives at individual and group level |
| Give discretion and freedom to act | Set boundaries to enclose actions |
| Ensure everyone has the skills and motivation to work | Identify a few simple rules |
| Build in tolerance for uncertainty and ambiguity | Provide continuous and unambiguous feedback |

adapted from Obolensky (2010)

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towards a system with interconnectivity, individual agency and variation (Kernick, 2011; Plsek and Greenhalgh, 2001). Leaders should not be impartial observers, but part of a dynamic system with an underlying purpose and internal order, focussed on building relationships, tolerating ambiguity and facilitating the emergence of new ideas and innovation (Plsek and Wilson, 2001).

## Decision-making

The complexity of health care requires leaders to juggle competing pressures and demands which evolve on an almost daily, if not hourly basis. To sustain safe healthcare delivery this complexity must be understood and shift the conceptualisation of leadership and decision making away from a 'one-size-fits-all proposition' to a more considered responsive approach.

Adaptive leaders need to have the skills to evaluate contexts so as to create the conditions in which the organization (and those who work within it) can cope with change and develop resilience. Snowden and Boone's (2007) Cynefin framework can be used to evaluate conditions and contexts and help us to operate and make decisions in what is often an unpredictable and sometimes seemingly irrational world. The organizational or system landscape is contextualized into one of four domains to help conceptualize the current situation: 'simple', 'complicated', 'complex' and 'chaotic'. When none of these appears predominant, an additional fifth domain: 'disorder' can be used, as summarized in *Table 2*.

**Table 2. Leadership in complex environments**

| | |
|---|---|
| Simple domain | Actions: sense, categorise, respond |
| | Stakeholders hold a shared understanding and parties readily agree to implement a self-evident change. Risks include stifling of innovation, oversimplification of situations and complacency. Leaders unaware of these pitfalls may plunge into a chaotic environment |
| Complicated domain | Actions: sense, analyse, respond |
| | The required change, while obvious to some, risks complication. Stakeholders raise multiple options demanding expertise to analyse the complicated context in which the proposed change occurs. Risk-averse leaders may stifle progression secondary to innovation appearing controversial |
| Complex domain | Actions: probe, sense, respond |
| | Constant flux exists within the unpredictable complex environment therefore single or simple solutions will probably not work. Courage and confidence is needed to 'probe, sense and respond' allowing a resolution to emerge organically. Without tolerance for experimentation, over-controlling toxic or destructive leadership may evolve |
| Chaotic domain | Actions: act, sense, respond |
| | Turbulence secondary to an indiscernible relationship between cause and effect creates chaos. Stabilizing the environment through autocratic direction (coercive leadership), while not ideal, is necessary to prevent further deterioration. Somewhat ironically, the desperation for resolution impels innovation and transformational emergent change may result |
| Disorder domain | Fortunately rare, true disorder exists where the current context is indiscernible and multiple factions emerge. Leaders must dissipate these factions and identify smaller isolated elements within the disorder where the context can be identified and subsequently managed |

from Snowden and Boone (2007)

Snowden and Boone's domains provide leaders with a tool to analyse their context so they can adapt appropriately to make decisions and select relevant leadership styles and change management techniques for success. Understanding that within individuals, teams and organizations these contexts exist on a dynamic spectrum is crucial to facilitate a system with the fluidity to adapt and respond to multiple external and internal changes and drivers.

When operating within the complex domain, Bak et al (1987) suggests that organizations or systems function with 'self-organized criticality'. Here the leader's role is more about containing boundaries, creating the conditions that help guide the process and letting solutions evolve, rather than trying to control everything by 'managing' the change, such as in a frantically busy emergency department or failing clinical service.

Another useful tool is Stacey's (2002) 'certainty-agreement matrix'. Here, the closer the leader can get people towards agreement about the change and what the impact will be, the closer they are to working in the simple domain (above). As such, leaders must work with followers to obtain agreement and provide certainty where possible. Conversely, leaders who wish to push for change can 'perturb the edge' of chaos and help transformational change emerge by working in the complex zone where there is uncertainty and disagreement (so-called creative conflict). However, this requires experience as leaders need to be confident, courageous, adaptive and responsive to listen to their followers; leaders need to have 'energy, enthusiasm and hope' (Fullan, 2003).

## Conclusions

This article has explored one of the essential requirements of effective leaders: the ability to manage, work with and be comfortable with change, particularly in complex contexts. There are many ways of viewing change and this article has considered some of the predominant theories and models for managing linear, developmental or transitional change. Such models are very useful for project-based initiatives or when changes need to be made within stable organizations or systems (e.g. relocating a ward or introducing a new IT system). When systems are more complex or when

## KEY POINTS

- The ability to manage and be comfortable with change is a defining leadership characteristic.
- All change involves some loss and grief, leaders need to be aware of the 'implementation dip' during which confidence and competence falls.
- A range of models exists to help leaders manage and plan for change, linear models are useful for planned change.
- Complexity theory and systems thinking provides different ways to facilitate emergent or transformational change. This needs adaptive leadership.

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there is little certainty or agreement about the change and its impact, then leaders need to adopt different styles and approaches, many of which are derived from complexity theory and systems thinking. Here, adaptive leadership which is responsive, flexible and open to change is more useful so that change can emerge rather than be directly controlled. As health care operates in a state of constant change and complexity, health-care leaders need to draw from such theories in order to help stimulate innovation and emergent change. **BJHM**

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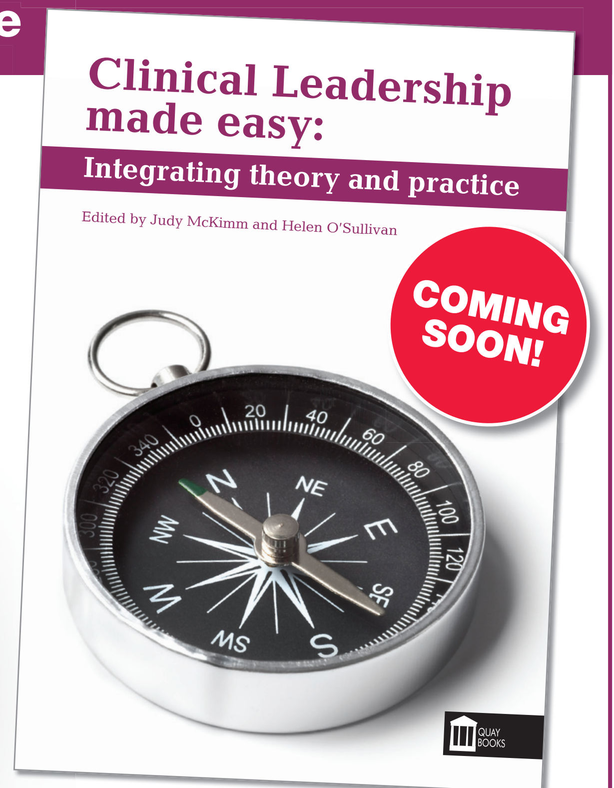


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