Leadership of whole systems

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The King's Fund

Contents

Abstract

This paper forms part of The King's Fund 2012 leadership review, addressing the topic from the perspective of those seeking to provide leadership extending well outside their own immediate organisational boundaries. To establish firm foundations on which to study this whole-system aspect of leadership, the paper first explores leadership, management and administration, responding to the first King's Fund commission which identified that the NHS is over-administered, but under-led. The simple message that management is about *control* while leadership is about *influence* becomes supremely important as we explore more deeply into the different demands of increasingly complex systems.

The paper then considers the difference between organisations and systems. In this we identify four different styles of whole system:

- networks
- markets
- collaborations
- social movements.

We note that the latter of these is rarely considered in relation to organisational studies, but with the rapid development of social media technologies we believe that social movements are rapidly becoming a serious contender as a major influence on leadership of whole systems. This exploration of whole systems is further developed by applying complexity science. This study demonstrates that the increasing stress facing organisations lowers the threshold at which we must treat them as complex systems. It also demonstrates that such systems respond to *influence*, but are not susceptible to *control*, thereby demonstrating that we must strengthen leadership in preference to management.

The most important aspects of our paper arise when we bring these two parts of the study together, to explore which characteristics of leadership are required when working across whole systems. We make seven recommendations to leaders about characteristics commonly associated with success in whole systems.

- Go out of your way to make new connections.
- Adopt an open, enquiring mindset, refusing to be constrained by current horizons.
- Embrace uncertainty and be positive about change – adopt an entrepreneurial attitude.
- Draw on as many different perspectives as possible; diversity is non-optional.
- Ensure leadership and decision-making are distributed throughout all levels and functions.
- Establish a compelling vision which is shared by all partners in the whole system.

- Promote the importance of values – invest as much energy into relationships and behaviours as into delivering tasks.

We include two case studies reflecting the importance of the right approach to leadership across whole systems.

1 Introduction

The place of leadership and management across the NHS has been under repeated attack for the past two to three years. This has been a prominent sub-text in the overall theme to strengthen the role of clinicians at the helm of the system. The NHS Confederation has sought to rebuff this attack on the important role of management, pointing to the fact that the management workforce represents a smaller percentage than predicted by studying comparable industries, whether measured by headcount or budget (NHS Confederation 2007). The Commonwealth Fund has demonstrated that the NHS performs well in international comparison, in both efficiency and effectiveness (Commonwealth Fund 2011). In its important work in 2011, The King's Fund Commission on Leadership and Management concluded that the NHS is over-administered but under-led (The King's Fund 2011). Is this a subtle re-interpretation of Kotter's assertion that organisations are frequently over-managed but lack leadership (Kotter 1990)?

In the political heat of an ill-explained, complex and frequently unpopular system reform, concern about the nature of leadership, the place of management, the role of different professions and bureaucratic processes all too frequently become unconnected and incomplete threads of debate in the weft of a polarised and emotionally charged set of confrontations. One certainty amid this confusion is that success in driving both quality and efficiency of care can no longer be achieved within traditional organisational boundaries, but will demand new levels of co-operation and partnerships working across whole systems. Successful leaders and managers are therefore confronted by new types of challenge demanding a different suite of leadership tools and styles. Traditional approaches to characterising leaders by their competences fail to reflect the difference between successful and failing leaders. Put simply, a new leadership paradigm is required.

In this paper we set out to untangle some of these threads to provide rigorous but practical guidance about this new paradigm and the needs of leadership: not at the traditional organisational or team level, but across whole systems. We identify seven key characteristics which exemplify the leadership style more likely to mobilise the type of system-wide transformation demanded by a fit-for-purpose care ecosystem of the future.

Our brief poses three questions which we seek to address:

- what distinguishes leadership from management and administration, and does the distinction matter?
- what do we mean by whole systems, and how do they differ from organisations?
- what do these differences mean for leadership of whole systems?

The first two of these questions may seem to be rather trivial and the answers obvious, but we believe that answers to the final core question of this paper can only be understood with a foundation built on clarity and shared language. In the sections that follow, we address each of these questions in turn, and provide a number of case studies demonstrating how leadership has played a distinctive role in breakthrough success of whole systems of health care.

2 Management and leadership: just what do we mean?

Perhaps the most useful differentiation of management from leadership for this work is the simple concept that management relates to *control* of resources and processes in order to achieve an agreed set of goals and purposes. Leadership, in contrast, relies on *influence* to achieve a desired purpose.

Management

It follows, then, that management involves those processes that are about the alignment and deployment of resources directed towards a clear set of objectives, with accountability for the efficiency and effectiveness of their application. Managers will take responsibility for defining clearly what has to be achieved and for securing all the necessary resources for success of the mission. The adoption of the title 'director' for the most senior managers is no accident – they must indeed set the direction and the rules to be applied, and then direct the way forces work towards that direction.

In discharging their responsibilities, managers rely on the authority vested in them by virtue of their position, so that they can organise, plan and direct their available resources. This can only be achieved when managers possess the right balance of knowledge, skill and experience to understand the consequences of the structures, plans and decisions they adopt when directing their resources. Managers will take ownership of the combination of guidelines, rules and processes which are to be followed – for some of these they will provide comprehensive instruction, while for others they will define the policies by which externally-set rules are to be interpreted locally. It is clear that managers must undergo an apprenticeship in which they develop sufficient contextual knowledge, relevant skills and practical experience so that their control of resources is both intelligent and informed.

Managers must also be accountable for successful achievement of goals, including effective and efficient deployment of resources toward that end. This is where management processes become administrative:

- keeping records which demonstrate that processes have been properly followed
- taking measurements describing levels of activity and quality of results achieved
- accounting for actual resources used compared with the approved plans
- demonstrating transparently to stakeholders that commitments have been met propitiously.

The argument for reducing management costs is a response to the premise that such costs are an overhead burden, not contributing directly to the quality of the organisation's output of goods or services. Clearly, this is not without challenge – there is evidence that the capability of management has a bearing on success (although there is very little definitive research proving that success is linked to good management, there are numerous examples

demonstrating that poor management is strongly linked to lack of success). It is perhaps helpful to separate management processes into two distinctive groups:

- defining purpose, planning, deploying and controlling resources
- supporting accountability though monitoring and reporting.

The former group is largely proactive and has close affinity to concepts of leadership, while the latter group of activities is predominantly reactive and often administrative.

Administration

Though necessary for governance purposes, these administrative processes fit readily into the category of activities that are a cost burden – intrinsically they are rarely associated with creating value. Care needs to be exercised here not to be dismissive, because their purpose is to provide checks and balances which should prevent value being squandered elsewhere.

When The King's Fund leadership commission chose to describe the NHS as over-administered, it was declaring that a disproportionate amount of management activity is directed towards the passively reactive process of looking backwards and accounting for what has happened. Under the current pressures of austerity, growing demand and escalating costs, looking backwards is far from the most urgent task for NHS managers. Their urgent priority is to chart a firm course forwards: defining a clear, ambitious, but realistic path through the obstacles and barriers. The overwhelming imperatives are to plan the best possible deployment of the scarce resources to maximise their impact, and then to deliver this plan by steering the organisation effectively. Applying a disproportionate amount of these precious resources to describe in great detail the territory from which the organisation is just emerging is both wasteful and misleading.

As pace of change and complexity both increase, there is a growing disparity between the view through the windscreen and that through the rearview mirror. In such a world, the process of accountability takes on a new demand for greater intelligence, shifting from measurements that report what has happened, into indicators that predict what is most likely to happen, a shift from so-called lag indicators to lead indicators. In these circumstances, providing accountability becomes less administrative and passive, taking on a proactive and knowledgeable role of *foresight*.

Leadership

Where management is dominated by the processes of *directing* and *controlling* resources, and administration is a *passive* process of *monitoring* and *reporting* the effectiveness of that control, then leadership, as we have already suggested, is dominated by *influence*. Where a manager's authority is conveyed through their defined position within an organisational structure, a leader's authority is drawn from the commitment of their followers. Without followers, there can be no leaders.

There is a growing recognition that followership is important (Grint and Holt 2011). It is perhaps helpful to explore leadership from this viewpoint of followers. Followers will *allow* themselves to be influenced when they can see

and admire a cause or vision or purpose which resonates with them. They will *warm* to that would-be leader if they can see that this purpose has a realistic chance of success. They will only *commit* to that cause when they also share a common set of values with those exhibited by the leader of that cause.

The contrasts of management and leadership

Herein lie some of the fundamental differences between management and leadership. Managers must set a clear purpose and direction in order to provide clear instruction of what is to be achieved. Leaders must set a compelling vision which attracts followers and inspires them to share that same vision. Managers develop resource plans that show *how* the goals will be achieved, but leaders must *establish* credibility to attract followers. Managers should *define* the values of their organisation in order to set the norms of what is expected. Leaders will openly *live-out* a set of values that attract followers sharing similar values. It is these lived values which create an empathic bond between leader and follower.

Oshry makes the important distinction that 'the business of management is to strengthen the system as it is, the challenge of leadership is to create what else the system can be' (Oshry 1999). It follows therefore that traditional management is simply not up to the task of achieving radical transformation of the type required within the health care system. It is equally true that the reach of management processes is curtailed by natural boundaries – exercise of management requires the direct control of resources, which by definition is delineated by the organisational boundaries.

It is possible in a limited way to extend management controls over more than one organisation, as in the special circumstances of partnerships, alliances or networks. Under these circumstances, each partner agrees to adopt similar rules and processes, agreeing to share their mandate with peers across the partnership. In practice, each organisation maintains its own management control, applying these in a consistent manner to other members of the partnership or alliance.

Such an abstract analysis appears too clinical, and disconnected from the reality of a world which is far messier than theory suggests. This is because leadership and management can never be completely divorced. Leadership is an essential aspect of management. Adept managers shift seamlessly between control and influence as the context requires. By way of example, most managers will invariably seek to involve others in the steps of defining vision, values and mission for an organisation. In so doing, they are exercising leadership by building commitment from followers, rather than exerting the control which their position affords. When organisations agree to collaborate or form a partnership, the constitutional position will be that they have agreed to a mutual extension of their management jurisdiction across the partnership, but invariably successful working will depend on the leadership skills of those involved to win the respect of followers across the partnership.

3 Thinking about systems

Introduction to system thinking

In this section we turn our attention to the second of our core questions: 'what do we mean by whole systems and how do they differ from organisations?; Those who have studied organisational theory will deem the answer to this question to be obvious and of little consequence to this report. But for others, the answer will make an important contribution to setting the record straight about the nature of something as complex as the health system and its relationship to constituent bodies, such as NHS organisations.

At its simplest, an organisation could be defined as a self-contained entity where there is some degree of freedom insulating it from direct control from its external context. As we shall see, this definition quickly runs into choppy waters, though it suffices as a starting point. In contrast, a system is an interconnected and interdependent series of entities, where decisions and actions in one entity are consequential to other neighbouring entities. It is salutary to explore around these definitions to test their boundaries of acceptability – not least because no entity can exist in a state of total detachment from every other entity implied by our simple definition of organisation. It might be helpful to explore an analogue at this point. The origin of the word organisation provides one of the most powerful and is explored in the box below.

This analogue shows quite clearly that an organisation, with its largely independent life, can be characterised by its organisational structures, rules, mechanisms and processes. It lies close to the picture we have already developed of management processes in which authority derives from the organisation. Outcomes are largely achieved through exercise of control. In contrast, systems, though they can take many guises depending on the diversity of organisations they contain, are much more strongly driven by the relationships and behaviours between organisations, where the essential forces are those of influence: in short, leadership not management.

Types of system

While we have defined a system as a complex series of interconnected and interdependent organisations, such a series is rarely random. It exhibits uniting features that characterise that particular system. Based on the unique combination of characteristics, we identify four distinct types of system: networks, markets, collaborations such as partnerships and social movements.

The latter may come as a surprise to many, because social movements are rarely associated with systems, arising as they do from a very different discipline of study. We believe that, although application of system thinking to social movements remains in its infancy, there is a rapid convergence indicating that the complementary experience is well worth drawing into our thinking about leadership.

Organisms as a source of insight into organisations

In this analogue, an organism represents the organisation. We can readily understand that every organism has an independent life, with its own particular characteristics. It thrives in a context to which it is well suited, but it quickly fails if placed in an alien environment. Despite this autonomy, every organism interacts with other organisms in its environment. It cannot be said to be wholly independent, because of the striking importance of some of those relationships and interactions. The 'personality' of the organism is shaped and influenced by these relationships, but despite all these influences, it retains independent life. For some organisms, these relationships are of immense influence, to render solitary life almost unsustainable, but for others, encounters can be few and far between. Some species of organisms rely on colonies of their own species for survival: coral polyps can be said to exist only in community, as can bees, ants and termites. In each of these, organised social behaviours give capability to the colony which exceeds that of an individual organism. Other types of relationship, such as parasitic and symbiotic, create bonds between different types of organism which are essential, but can cover the extreme from exploitative to mutually beneficial. Despite all of these varieties of relationships and interactions, the organism has its independent existence and characteristics, and a group of organisms can exhibit quite different behaviour from that of the individuals. So it is with individual organisations and systems.

On the other hand, we have already introduced the notion of a colony, comprising many organisms, and in which the behaviours of the colony cannot be predicted by studying the individual organism. In a colony, its life is shaped by both the organisms and their interactions and interdependences. In the cases already described, the social colony comprises a single species. If we extend the concept of multiple interacting organisms to an ecosystem, there can be huge diversity of species all contributing to the life, the characteristics and the development or evolution of the ecosystem. Colonies, social communities and diverse ecosystems are all examples of systems, in which every organism plays its own part in its warp and weft.

Networks

A network is one specific type of system, though the terminology has become more diffusely defined as it has become widely adopted. Strictly speaking a network relies on a mesh of interconnected nodes, in which the properties of each node, and the relationship between a neighbouring pair of nodes, are both clearly understood.

In communication networks, considerable advantages arise when nodes possess similar properties, and each relationship conforms to defined protocols or standards (Limoncelli *et al* 2007). Efficient communication across the network relies heavily on the fact that identical algorithms are applied by each node in the network when routeing and forwarding a packet of information. When forwarding the information packet, these algorithms determine the direction most likely to require fewest steps before the information reaches its desired destination node. The intelligence distributed

throughout the network is able to adapt to breakages and congestion and correct the majority of transmission errors or 'noise'.

This type of network may seem far removed from whole systems of organisations, describing as it does something which is a pure technology artefact. However, the techniques used to manage such a complex system owe much to the study of how ants share intelligence with each other to imbue a colony with capabilities far superior to any single ant (Gordon 2010). There is much to be learnt in the world of whole systems by importing such insight from both the natural and technology worlds which, on the face of it, seem far removed from whole systems such as those providing health care.

It is clear that the 'controlling' principles, or 'power', in a network do not reside within any of the organisations, but are vested in the rules that govern the relationships and exchanges between organisations; the network structure itself is far superior to any individual organisation, and we must explore later how the governance of a network is determined, and what this means for leadership. We will return to the rising phenomenon of social networks in the following section, and to the concept of networks in relation to clinical networks.

Markets

A market is a type of whole system more likely to be familiar to people. In a market-based whole system, individual organisations generally have greater autonomy over the way in which they extract value from their market position. They are also likely to set their own aspiration for how much they contribute to developing the market, though the extent to which they realise this will depend on the share of the market they can command. Their own ingenuity, uniqueness and competitive drive enable them to jostle for position within the market and assert themselves.

A considerable amount of material has been published to guide leaders and managers in extracting as much competitive advantage as possible out of their market (see for example Porter 1985; Slywotsky 1996). Perhaps this literature represents the nearest thing to documented understanding of leadership in whole systems, though the vast majority of it focuses internally on shaping the organisation, rather than externally on shaping the market. The rules by which the market system operates have a considerable influence on what leaders can achieve. Most markets have rules defined and enforced by external forces or regulators. These may be governments, industry bodies, international alliances, consumer groups, or other vested interests. Where the important rules involved in shaping network systems are largely distributed, the rules involved in markets tend to be centralised.

In general, market regulators fulfil two distinct roles: they oversee compliance with agreed rules, and they intervene to protect interests of weaker players when the market exhibits asymmetric power between players (one common example would be to protect consumers from being exploited by dominant providers in the market). Perhaps the richest example of whole-system leadership in action in markets is when partnerships and collaborations form with the sole intention of shaping the way the market evolves – both through changing market rules, and by changing the landscape of regulators and external forces. These partnerships are often industry or professional lobby groups. They are more prevalent and likely

to be more influential at times of step-change in the market dynamics. New, emergent technology is a significant source of potential step-change, but changes to any of the external forces, such as legislation, education, business models, political context or price points may all give rise to the opportunities for new approaches to leadership across the whole market. We must of course be aware of anti-trust behaviours, of collusion among cartels and other combined forces which unfairly distort the market. Much continues to be discussed about the potentially illusory nature of a real market in health care, given that only some of the normal market forces are allowed to operate.

Collaborations

The third model of whole systems encompasses a range of approaches to collaboration, including consortia and partnerships. A group of complementary organisations come together in a structured way to respond to a specific challenge, assignment, or group of similar assignments. A common purpose lies at the heart of such collaboration.

By their nature, these are not permanent organisational structures (such as those arising from mergers or acquisitions), but consist of a temporary collaborating entity created to pool skills, experience and/or capacity. For the particular task at hand, the ideal is for such a collaboration to behave as if it were a single organisation, but it is inevitable that leadership of such a collaboration contains more dangers and pitfalls than are present in a single organisation.

The multidisciplinary and multi-organisational team created for the specific assignment will need a clear common purpose and must work efficiently across the distinct organisational boundaries of its members. However, each part of that consortium will also be subject to powerful forces external to the consortium, including those which arise internally within the constituent parties. Stresses and tensions within the partnership will therefore manifest very differently to those found in a single organisation, especially if the parent organisations operate in distinct markets each of which may be subject to wildly different forces.

Leadership and management in such partnerships can be very different to that appropriate to each parent. Because the desired end result generally sits beyond the purview of any individual member of the partnership, a special emphasis is required to create both a compelling shared vision and a clear and comprehensive mandate. The combination of control and influence will need to take on new strength.

One particularly successful example of collaboration can be found in the building industry, where consortia are established to deliver major projects. Leadership is provided by an integrator project manager, whose function is to assemble and direct a unique and multidisciplinary team with all the skills required to deliver a fully integrated construction project, turning an architectural concept into a physical monument to the power of collaboration.

This model is particularly important, as it has real potential as a template on which to develop new approaches to integrated care without the need for structural integration (Welbourn and Liddell in press). Such an integrated care model relies on each partner in the collaboration contributing to the whole in the following ways:

- having a well-defined role within the overall system
- maintaining a clear relationship to each other collaborator in the system
- providing efficient and effective solutions for their part of the whole system.

Social movements

The study of social movements is traditionally the domain of sociologists and ethnographists, and rarely touches the world of systems thinking. Unlike the traditional view of systems which tend to be characterised by some degree of order and defined by rules and mechanisms, social movements generally begin life with no sense of order or of rule or mechanism. Because of their frequent association with opposition to the status quo, social movements can be characterised as anti-system.

Davis *et al* had the foresight to observe the potential convergence between the disciplines of social movement and organisational theory, and have generated new insight from their interdisciplinary approach (Davis *et al* 2005). In their analysis, historically profound social movements such as the civil rights movement in the USA, and the abolitionists in the UK, have struggled with decades of persistence to achieve a sustainable but profound change in attitude. Although they began without any organisational characteristics, their longevity required them to take on some of the structural and procedural attributes more associated with systems. Such a shift towards establishment and organisational governance has frequently been a cause of tension within the movements themselves.

Social movements are built around the ability to gain airtime for the cause and to turn that into mass mobilisation. In the early stages, they are frequently vulnerable, because as the cause begins to crystallise it may well emerge that there are several, different but overlapping causes, with conflicting motivations and driven by disparate values. A loose set of allegiances quickly fragment as more detail emerges. The difficulty of mobilisation, the high probability of fragmentation and the lack of systems, processes and absence of authority act in concert to create a considerable barrier to social movements emerging from the nascent stage into mature systems.

The past five years has redefined the place of social movements, earning them a new place in papers like this, simply because the world of social media technologies has emerged so rapidly and with such powerful effect that social movements have almost unfettered and certainly uncontrollable power. The timeline for social movements has been rewritten. Mobilisation is now achieved in a shorter time than that required for differences and conflicts to emerge. The social movement exceeds critical mass long before fragmentation begins. In a world of instant, viral communication to a staggering proportion of the target population, the spontaneity of action and the lack of structures have reversed the power balance, so that social movements can form, mobilise, gain headlines and have powerful impact before organised systems are even aware of any opportunities or threat.

In 2011, we saw a tsunami of social movements crashing round the Mediterranean creating a force for change for which no political system was

prepared. The UK riots in August 2011 created a social movement of power which arose and declined within days. The rise, with similar spontaneity, of a counter-movement to restore order would have been inconceivable only a few years earlier. The transfer of power and influence on such a scale from organisations, institutions and governments, into the hands of citizens and consumers, represents a brand new paradigm for systems which is unlikely to recede. It therefore forms an important part of our backdrop for studying system leadership, if for no other reason than, in these emerging events, leadership often rests spontaneously and maybe transiently with those who least expect it.

In an earlier, and simpler form than the ideas proposed here, the concept of social movements has been studied previously as a vehicle for mass mobilisation of change in large systems – most notably by the work of the NHS Modernisation Agency, where it explored the adoption of principles behind social movements to create a significant force of change agents spread throughout the system (Bate *et al* 2004).

Complex systems

When considering whole systems, the term 'complex' is frequently used to describe them. The term is used loosely to mean that dealing with them is not straightforward. In the language of a relatively new science of complexity theory, the term 'complex systems' acquires a very specific meaning from which a whole series of consequences follows (Gleick 1998; Page 2011; Prigogine 1997). In this meaning, when a system becomes truly complex, we enter a realm where our experience and our understanding simply reach limits where even experts struggle. In this world of complexity, we reach the stark realisation that knowing *everything* about the system still does not allow the system to be perfectly determined. This seems paradoxical, but the outcome of a complex system can only be determined within a probability distribution. The system is more likely to behave in one way than any other. While it is possible to predict what the most likely behaviour is, there is no absolute certainty that this is what will happen. By knowing a lot about the system, we may well be able to *influence* the way it will behave, but we can never *control* it. This language alone makes it clear that in complex systems, leadership (the stuff of influence) is more relevant than management (the stuff of control).

> *A complex system is one in which even knowing everything there is to know about the system is not sufficient to predict precisely what will happen.*

The above statement seeks to provide a more technical description and some insight into how this arises, but it is not necessary to understand the mechanisms of complexity to be able to respond to the consequences of systems which have stretched beyond the realm of normality into such complexity.

There are numerous parallels to the field of complex systems across many other disciplines. Each of these parallels simply reflects the fact that any system of rules and governance has a limited range over which those rules apply to describe 'normal' experiences. When those rules are stretched to extreme circumstances, abnormal things start to happen. Science has time

and again encountered such limits, each time developing and testing new theories.

These new theories start to rationalise what seemed abnormal, developing new learning and creating new insights which extend the range over which behaviours can be understood and predicted. In physics, the work of Newton described everyday experience of the physical world for a considerable time and was thought to provide perfect solutions. Einstein's work, first on special relativity then on general relativity, exposed gaps in understanding which needed new models. This cycle has since been repeated by quantum physics and continues to be developed into even more complex refinements.

Complex systems succumb to attributes of leadership, not those of management.

It is important that we adapt our concepts of leadership into this paradoxical world of whole systems. If we are to provide strong leadership, we must be unfazed by the daunting thought, that, even if we could know everything about a system, we will still not be able to determine exactly what will happen. As has been proven time and again in the sciences, existing well-worn theories continue to provide the insight required within a given domain, and new theories will extend our insight into those areas that initially seem too absurd to be tamed. The world of complexity science is one of those areas where great progress is being made, as different disciplines combine forces in the search for new understanding.

Terms such as non-linear systems, non-equilibrium theory, chaos theory, system dynamics, statistical dynamics, game theory, network theory and evolutionary biology all describe the quest to extend understanding. All share the common trait of tipping out of the realm of certainty and into one of probabilities. All offer similar levels of optimism that if we learn the science of complexity, we will be able to predict the most likely outcomes with improved levels of confidence. Continuing to try and control such a complex system, as if it were but a slightly-bigger-than-the-norm simple system constitutes being in denial.

The linkage between the previous section in which management and leadership traits were contrasted cannot be allowed to escape the reader.

One further term is of special interest here. The term 'complex adaptive systems' is growing in use, and marks out a special category of complex systems (Miller and Page 2007). So far we have described complex systems as any which are affected by very large numbers of variables to such an extent that the outcome cannot be determined accurately.

Such systems can be either passive or active. In a passive system, each of the numerous variables is determined by a static (though often unknown and undetermined) set of conditions for which it is the sheer scale which makes the system complex. For case studies of dynamic analysis of organisations *see* Foster and Kaplan (2001).

Complex adaptive systems

In an active system, each of the variables within the system may be determined dynamically – with some local intelligence applied in a way which may be influenced by other parts of the system. Such an active system can be described as non-linear, or non-equilibrium, because of the feedback

A word on complexity theory

In this world of complexity science, or complex systems theory, there are two defining characteristics. On the one hand, the number of individual variables within the system is impossibly large – in practical terms approaching infinite, in that no part of the system can be adequately aware of the whole of the rest of the system. Sitting alongside the sheer size of the problem is another crucial ingredient for truly complex systems, and this relates to the impact of errors or variations in the system. Each of the variables in the system will have a natural and finite tolerance – there will always be a degree of uncertainty about its precise value. The consequence of this is that, even if we had the ability to understand the impossibly large number of variables, when we take into account that a single value for each of these parameters actually covers a small range, each single state in which the system can exist overlaps many other discrete states too. This is a difficult concept, but knowing *everything* about the complex systems inputs does not provide a fully determined output. For the physicist, there is a considerable parallel between complexity theory and quantum physics.

mechanisms between parts of the system. Complex adaptive systems are important, because they are able to adapt to the particular state they are in. An ant colony (cited previously as a natural laboratory in which to learn about complexity) is a complex adaptive system, because the interactions between individual ants spread knowledge throughout the colony to change individual ant behaviour. The system is self-learning. Ants that find a source of food are able to teach the whole nest where they should forage. The internet protocol-based (IP) network in telecommunications is another self-learning system – information flowing in the network creates its own path to its destination, by learning from and adapting to the whole system.

If *complex systems* are defined as those in which even knowing everything there is to know is insufficient to determine an outcome, then *complex adaptive systems* are those in which the system itself learns from experience how to respond most effectively to achieve the desired goals, however much the external circumstances change. In one leap, we have moved from a position of despair where we appear to be incapable of taking the right decisions to achieve our goals, to one in which we could potentially create a system with the capability of teaching itself how to solve its own problems.

One feature which differentiates simple systems and complex adaptive systems is worth a final thought. In simple systems, errors, variations and loss of control are distinctly harmful to the achievement of desired outcomes. In complex adaptive systems, the presence of small errors or random fluctuations is vital to sustain the adaptive mechanisms on which learning relies. When we turn our attention to real world whole systems, some degree of 'toxicity' becomes important. Some aspect of maverick behaviour is vital to discovery, with some leeway for breaking the rules becoming essential. The rules and attitudes in complex systems need to be rethought!

Sector specific characteristics of systems

Temporarily leaving behind the exciting paradigm of complexity, there is one final dimension of whole systems to explore. It is important to consider

whether any significant differences arise between the sectors. Do whole systems in the private sector differ from those in the public or third sector?

Whole systems thinking in the private sector

As demonstrated in the examples above, whatever the scale and challenges of whole-systems leadership in the private sector, the organisation itself remains a substantial pillar from which to reach out beyond its boundaries. Regulatory forces will always lie outside the individual organisation, and will always step in to tilt the playing field if that organisation seeks to become overly dominant. A group of organisations working together will be able to exert greater influence to shape new markets and create new opportunities, but the combined influence will dissipate either in the face of competitive advantage, or under the threat of anti-trust legislation. The forces of governments, regulators, professions, educational processes and consumer power, to list just a few of the interest groups, will all remain significant factors constraining the private sector. Whole-system thinking in the private sector will continue to be dominated by organisational constraints.

Whole systems thinking in the public sector

For the public sector, the situation is nowhere near as clear cut. Here, whole-system thinking can be as broad as setting and implementing public policy across a whole domain of public services. The boundary of a whole system may be geographically local, regional, national, or even on occasions international. Equally, the boundary may be drawn around a single service area, such as waste disposal, or it may encompass a highly interwoven multiplicity of issues. A whole-systems view of children's services should, at the least, encompass housing, leisure, education, health, welfare and criminal justice.

In the public sector, whole systems can extend across multiple markets, or to whole industry sectors, or require networks or collaborations involving more partners than can fit easily round the discussion table.

In the case of health care, the question of where to draw the domain boundary remains without a definitive answer. Historically, system boundaries have been drawn around a subset of services, with a distinctly organisational flavour, creating an artificial separation of public health, primary, community, mental health, secondary and specialist tertiary and end-of-life care. In the UK at least, social care is separated from health care by even sharper boundaries, as is hospice-based care. Social welfare and social housing policies are even further removed. A genuinely whole-system approach to health care needs to encompass these traditionally separated islands of policy and services, placing demands on leadership of such whole systems that far exceed an individual's reach of conventional power, control or even understanding. There is no doubt that a whole system of this reach must be considered as a complex system in the definition previously introduced.

Whole systems thinking in the third sector

Third sector (also referred to as the voluntary, not-for-profit or community sector and including charities, philanthropic foundations and various models

of social enterprise and community interest partnerships) organisations are frequently established to promote aspects of better society, suggesting a close affinity to social movements. The changing forces of social movements we have outlined here will create important new opportunities and demands on third sector leaders. The often fragmentary nature of this sector also poses new challenges in which collaboration within the sector is important; the Disasters Emergency Committee (DEC) is one such example where 14 aid agencies in the UK pool their efforts behind common causes, while retaining their individual identities and unique purposes. Much of the work of whole systems leadership for this sector lies in the leadership skills to build a social movement around a cause.

Beyond specific examples, the third sector has a considerable role to play at a whole-systems level, simply because it is perceived to be good at effectively engaging with the public and society, in a way that neither public nor private sector organisations are. The private sector is increasingly keen to befriend third sector organisations because it legitimises aspects of their corporate social responsibility. The public sector has even more reason to work with third sector partners to bring not only this public legitimacy, but also a level of engagement and trust which enables whole-system working to be more effective. This trend will only be strengthened with the political aims of encouraging a rebalancing between rights and responsibilities in the relationship between citizen and state (Cabinet Office 2012).

4 Leadership of whole systems

In the previous sections we have sought to bring some distinction between management and leadership and to explore concepts of systems which differentiate them from individual organisations. We have also noted that these issues of themselves are contextual – the scope of systems in the private, public and third sectors are quite different, and it is therefore misleading to suggest, as it frequently is, that the public sector simply needs to adopt more of the leadership and management skills from the private sector. The leadership challenge of defining, re-shaping and redirecting whole markets and economies extending well outside one's immediate organisation is one for which simply there are no neatly pre-packaged solutions.

We have also sought to set a robust foundation on which to explore the challenges and demands of leadership across whole systems – a task which some of the literature has failed to complete, in part reflecting lack of coherence in the way the language of system complexity is applied.

As we have seen, the most direct conclusion, even from a basic reading of the previous sections, is that we need to draw more heavily on understanding of leadership than of management, and we need to draw more heavily on broader concepts of system complexity than on organisation theories.

In our study of the most recent literature on leadership of whole systems we have found a number of recurring themes, often occurring as subtexts rather than drawn out as clear messages, either for leaders or for those involved in leadership development. We have synthesised these themes into seven practical messages which we encourage leaders to adopt as characteristics of their leadership style, as set out in the box below.

In the sections that follow, we explore some of the literature from which these key messages have been synthesised, beginning with material drawn from examples of collaborative leadership. We explore a number of approaches focusing on diversity and the importance of inter-disciplinary working, before moving on to other work focusing on the implications of complexity for leaders.

Collaborative leadership

Many studies have explored the importance of co-operation and collaboration, both within and between organisations, concluding that effective co-operation contributes to greater flexibility and strengthens resilience (Huxham and Vangen 2005; Schalk and Curseu 2010). Effective cross-boundary networking also leads to better knowledge-sharing, creating a greater level of overall insight, while expanding the effective joint capacity across the network. MacGillivray published a phenomenographic study of such cross-border knowledge-sharing in the important area of counter-terrorism, demonstrating improvements in outcomes – in their case measured as improved confidence in regional security (MacGillivray 2010). The study emphasises the role of community leaders engaging across the network of organisations and locations without any form of positional authority. Some communities adapted and learnt much more quickly than others. He attributed this to the mindset of those leaders, who were much more open to complexity thinking: able to inspire others, while having the

A practical guide to those providing whole-system leadership

To emulate people who are successful in leading complex systems, adopt the following seven approaches:

- go out of your way to make new connections
- adopt an open, enquiring mindset, refusing to be constrained by current horizons
- embrace uncertainty and be positive about change – adopt an entrepreneurial attitude
- draw on as many different perspectives as possible; diversity is non-optional
- ensure leadership and decision-making are distributed throughout all levels and functions
- establish a compelling vision which is shared by all partners in the whole system
- promote the importance of values – invest as much energy into relationships and behaviours as into delivering tasks.

humility to create the space for shared leadership. These same leaders also exhibited a greater desire to see their community more like an ecosystem than a machine. At the same time, they created confidence because they welcomed, rather than feared, uncertainty.

Leaders who are more likely to initiate collaborative working have been shown to achieve higher performance (Baker *et al* 2011). These leaders were constantly visible and present on-site, frequently engaging in making connections for themselves and others. This not only created greater connectivity throughout the organisations, but also generated a network of distributed leadership.

This concept of connectivity manifests in several ways. Managers involved in delivering complex programmes have long focused on the importance of span-breakers – a term providing graphic illustration of the role to sit astride the traditional functional silos, making connections, and frequently resolving crises arising from the usual confusion of communications between different areas of specialism (Goold and Campbell 2002). A study of the role of 'bridge' leaders reports that a key leadership style in such a role is to create personal obligations as a response to goodwill among the key players (McMullen and Adobor 2011). They conclude that the successful bridge leader substitutes a range of influencing strategies to compensate for lack of positional power. Other studies also confirm that effective leaders are able to create commitment through their collaborative behaviour (Maddock 2011), demonstrating that such earned commitment can create greater resilience against system stresses such as accelerating demand and expectations at a time of budget reduction.

With the growing interest in integrated care, there is a growing body of published work exploring the need to work differently across boundaries within the health care system, and in the boundaries between health and social care. Much of this only touches on leadership issues in passing, but they provide useful insight. For some of the more recently reported work see

for example (Audit Commission 2011; Curry and Ham 2010; Goodwin *et al* 2011; Rosen *et al* 2011).

The importance of diversity

One of the most forceful themes in the literature is the importance of diversity in its widest possible context.

A large-scale Canadian study of cross-sector alliances in health care demonstrates that benefits flow directly from the diversity involved in such alliances. In this context, diversity includes both organisational type and sector (Cikaliuk 2011). It is not simply confined to the traditional dimensions of ethnicity, gender, culture and social position. The diverse network of this study involves public, private and third sector actors who together create a new richness which is more fitted to innovation and adaptation. The emphasis on being open to different ways of thinking encourages a learning culture, creating a system which positively seeks out new ideas and approaches with fruitful results.

Other studies previously cited reflect similar experience. Greater levels of inter-working between research disciplines lead to new insights at the intersection between the different perspectives (Schalk and Curseu 2010). Other work suggests that it may not be sufficient simply to respond to learning opportunities; it is essential to create a culture that positively seeks out new ways of learning from different perspectives (Baker *et al* 2011). Such a proactive approach to cross-functional working has also been shown to correlate directly with evidence of improved performance (Santa *et al* 2010).

Within the care sector, this has been understood for some time. Multidisciplinary teams transform the quality of care, especially in those areas of complex morbidities such as mental health, cancer and children's services when dealing with complex families. The Audit Commission produced practical guidance on how to increase the benefits of cross-disciplinary joint working between clinicians and finance teams (Audit Commission 2007).

This theme of diversity is recurrent throughout studies on leadership, and although the value lies in the fullest breadth of diversity, it is worth reappraising some of the more traditional work on diversity in this new context of whole-systems thinking. Jonsen provides a helpful picture of studies in gender diversity (Jonsen *et al* 2010).

A practical self-assessment guide has been published, deigned to help chief executives, assess the extent to which they are exhibiting helpful collaborative tendencies (Ibarra and Hansen 2011). The message is clear – set the tone of your organisation as one in which collaboration and making connections is expected of leaders at all levels.

Leading through uncertainty

A number of studies have considered the demands on leadership caused by uncertainty and turbulence. As traditional organisations face pressures of increasing severity, such as increased competition, ever-faster change, new technologies and the current adverse economic climate, it is clear that these growing stresses lead to emergence of complex behaviours in previously simple organisations (Ford 2010). Ford concludes that their confusion and

Case study

A co-operative involving clinicians, inventors, producers and patients to expedite implementing new technology solutions that promote dignity and independence for people with long-term conditions

The Devices for Dignity (D4D) Healthcare Technology Co-operative is a national resource delivering technology solutions to support people with long-term conditions, preserving their dignity and independence. D4D does this by driving innovation from the initial identification of unmet clinical needs through to new products, processes and services.

D4D operates a collaborative hub website, bringing three very different groups together around a problem:

- members of the public who can register their unmet needs
- a wide range of health care professionals with ideas of new technology solutions
- inventors to develop ideas through to marketable solutions.

For each opportunity, D4D assembles a team of health care experts, scientists and academics to assess the concepts clinically. Inclusion of patients and industrial partners from the outset ensures that the finished product is both fit for purpose and can be taken to market quickly. Strong leadership is provided by the clinical director, but success relies on leaders within each project who are able to build a team across all the disciplines involved in the project, from design through to production. Team members are able to achieve new goals, through their close collaboration with other disciplines.

> *Having D4D's scientists support us with the study allowed us to develop expertise in use of a new technique and improved our knowledge and understanding of how to bring a new device into the NHS.*
>
> (Speech and language therapist)
>
> *Working as part of an experienced team with D4D has given me a rare opportunity to develop ideas and see them applied directly to help patients and their families achieve a real improvement to their quality of life.*
>
> (Physiotherapist)

The approach of putting clinicians and inventors directly in touch with patients expressing a need for better solutions to preserve both dignity and independence of those with long-term needs overcomes many of the problems of inertia.

One of the many challenges D4D is responding to involved a very clear requirement from a teenager who would not normally have been heard, let alone had their need met:

> *… so please make a height-adjustable manual wheelchair in which I can touch the floor and feel the sand at the beach with my bare feet!!*
>
> (www.devicesfordignity.org.uk).

uncertainty can, ironically, lead to a new form of cohesion; an obligation forms between different actors in the system to work together to compensate for the absence of any workable structures combined with the fact that no-one possesses a full and accurate understanding of the environment. These actors then take on roles which are not predetermined by any hierarchy or position in the organisation, in similar vein to the model previously described (MacGillivray 2010). It has been suggested that Drucker's seminal work (Drucker 1980) on the tensions created in an increasingly connected society can be re-interpreted in the light of contemporary understanding of complexity (Lane and Down 2010).

Another recurrent theme is the colourful language used to describe different types of adversity. Characteristics such as variation, toxicity and chaos are invariably treated as weaknesses to be eliminated when they occur in simple organisations. However, in complex systems these ideas earn renewed legitimacy, extending as far as describing the opportunity to *learn from the toxic trenches* (Gallos 2008). Gallos also seeks to redeem the importance of power, now usually treated as a politically incorrect concept. But along with other writers, he uses the term with new meaning, as the new sources of power are invariably informal, rather than institutional or positional. Understanding this new style of power is an important reason for seeing key links between complexity science and social movements. Oshry's power lab experiments are well worth reading in this context (Oshry 1999)

Metaphor can be a very helpful way of dealing with the rather abstract concepts that emerge in complexity science. Palmberg gives particularly helpful insight, reinforcing the earlier messages that the main duties of system leaders include encouraging an openness to learning and new concepts, developing a progressive approach to diversity, and distributing responsibility throughout the system (Palmberg 2009).

Distributed leadership

A recent review has looked specifically at whether the current climate of austerity changes the leadership dynamic in the UK's public sector (Leslie and Canwell 2010). They appear to conclude that generically at least, there are no new requirements for changes to leadership – the new pressures simply reaffirm the importance of adopting complexity thinking. They see the most valuable aspect of relevant leadership being to distribute and embed leadership throughout the system.

Understanding this concept of distributed leadership is an important aspect to grasp when dealing with whole systems. In a brief thought piece, Ancona defines some of the characteristics of distributed leadership, importantly noting that it is possible to measure the extent to which leadership is distributed and shared (Ancona and Backman 2010).

Complexity in health care

Plsek was one of the prominent early adopters of the ideas of complexity within a health care domain (Plsek and Wilson 2001). Edgren has recently focused on the importance of viewing integrated care systems through the lens of complex adaptive systems (Edgren 2011) and concludes that effective integration between health and social care is facilitated when leaders adopt the mindset associated with complexity thinking, recognising that better

outcomes are strongly facilitated through better relationships and breakdown of traditional boundaries. We have previously applied metaphors from both engineering and nature to describe the whole-systems challenge in health care (Welbourn 2009a; Welbourn *et al* 2011). Links have been made between organisational learning, leadership styles and enhanced organisational performance, demonstrating that the concepts of self-learning are important features of successful systems (Franco and Almeida 2011; Welbourn 2009b).

Leadership and communications

In all theories of leadership or management, communication features as one of the most important characteristics. As expected, when dealing with uncertainty and complexity it takes on even greater importance with special emphasis on values such as integrity, authenticity, honesty, and not being afraid to face the difficult realities. Here the bestseller texts take on renewed significance (Collins 2001; Covey 1989) especially when taken alongside more specialist texts such as (Pearce 2003) on leadership authenticity and (Grimsley 2010) on facing difficult conversations.

For practical guidance on the importance of frequent and relevant communications to aid the process of leading people through chaotic change see (Karp and Helgø 2009) who stress the importance of paying attention to how people form identities within the system – a slightly different way of expressing the familiar themes.

Leadership of complex adaptive systems

There is a growing attention to leadership of complexity, with a number of recent texts. Goldstein *et al* focus especially on the need to pay attention to theories of complexity to respond to these growing pressures (Goldstein *et al* 2010). Obolensky subtitles his book 'Embracing paradox and uncertainty' and provides a thorough, research-based, yet practical guide to leadership of complex adaptive systems (Obolensky 2010).For a brief summary see Yergler (Yergler 2011). Other writing ventures into the field of exploring how to develop appropriate corporate governance for complex environments (Goergen *et al* 2010 and Rhodes *et al* 2010).

Heifetz has written extensively on adaptive leadership, an approach to leading change that fits well with the concepts of complexity. (Heifetz and Linsky 2002; Heifetz *et al* 2009)

Leadership development in a whole systems context

In 2009, Benington and Hartley published a considered review of the need to improve leadership capability beyond the boundaries of traditional organisational leadership. They focused on resources directed towards developing senior leaders throughout the whole of public service in the UK (Benington and Hartley 2009). This work highlighted the need for a step-change in public sector leadership skills. They proposed a more co-ordinated approach to the working of the senior staff colleges across the different service arenas. In essence this approach created a perspective in which the domain of the whole system in question was characterised by the need for common skills development and knowledge-sharing around the challenge of senior level leadership for the public sector. It called for a pooling

of educational resources, which, of itself, would break the traditional silo approach to the different areas of public service. This work sought to inject new thinking into the solutions of leadership development. Without seriously exploring the nature of the new skills required, but simply by exposing the debate, it exhibited a number of the characteristics required for whole systems leadership – exposure to ideas from fields substantially beyond the boundaries of the system, development of new insight from the hybrid ideas generated in truly inter-disciplinary approaches, and the creation of leaders capable of importing learning from beyond the traditional as a result. This concept was further developed with an explicit call for collaboration to sit at the heart of leadership development, suggesting that the redesign of leadership development should draw on the benefits of co-design (Worrall 2008).

In a challenge to the norms of leadership development focusing on individuals, Edmonstone suggests that it is important to invest development resources in the *process* of leadership, (Edmonstone 2011). His work suggests that this will improve the creation of social capital and its distribution throughout the organisation and teams. This should yield a stronger focus on whole systems, creating greater respect for diversity, and strengthening the concepts of empowerment and distributed permissions. Without making the connection explicitly, this focus on the process of leadership is beginning to touch into the domain of social movements, which we believe will prove to be a fertile ground for new understanding in the next few years.

Impact of social movements and wider stakeholder engagement in leadership

As we indicated earlier, we believe that there is much to be gleaned from theories of social movements, especially given the prominence granted to them through social media technologies. A very helpful study draws out the value of linking organisational studies with social movements, (Davis *et al* 2005) though this research pre-dates the explosive spontaneity enabled by social media technologies.

Perhaps the most powerful aspect of social movements impinging on leadership of health care is the way in which patients and citizens are given a new voice through social media. Macdonald *et al* have conducted an important study into the relationship between leadership styles and the impact on patients within health care systems (Macdonald *et al* 2009). Importantly, they report that exactly the same attributes that contribute to high performance in complex systems directly support an environment that leads to improved patient experience. They refer to the noticeable differences created by managers who go out of their way to create networks of conversations – a study conducted in the context of the formal patient environment action teams (PEAT) studies in the NHS.

Nowell reports on the contribution that the development of a wide network of strong stakeholder relationships makes to the success of inter-organisation collaborations (Nowell and Harrison 2011), finding that even though it is important in the normal working of collaborative partnerships, it takes on even greater significance when the collaboration involves significant change. Interestingly, according to our study, one of the effects caused by the stress

of change is the lowering of the threshold at which the system exhibits complex behaviours.

Lane *et al*, whose work we have already introduced, also begin to touch on the intersection between traditional economic drivers of business decisions, seeing the need to take decisions in the wider framework of social and environmental concerns (Lane and Down 2010). This connection between leading through uncertainty and social, even moral and ethical, obligations associated with sustainability intersects with the growing importance of social movements.

Perhaps the most comprehensive linking of these is provided by Mervyn King in his book *Transient Caretakers* (King and Lessidrenska 2011). King is the renowned author of the three phases of governance development which helped South Africa maintain global investor confidence through the transition from apartheid (King 2009). He is currently leading the global drive for integrated reporting which will bring some structured transparency to leaders' accountability to stakeholders (IIRC 2011).

5 Conclusions

It is clear from this review that there are consistent messages from the research about the challenges of leading whole systems. These messages all point to some key attributes that are essential for high performance across the system.

It is clear that many systems fulfil the conditions in which complexity theory must be taken seriously and it provides considerable insight into the styles of leadership required. What is perhaps less obvious is that systems that do not normally display the full characteristics of complexity can be readily tipped over into complex behaviours under adverse pressure from external factors, most noticeably the challenge of responding to the current climate of austerity, and when under major pressure to change.

The literature consistently points to a mindset associated with dealing with complexity. This mindset is one which is not only open to new ideas, but which goes out of its way to seek new sources of ideas and to wrestle with uncertainty, and invests time in generating not just insight, but foresight. For leaders who are genuinely open to complex thinking, no boundary is too far away to be worth seeking understanding from the other side. This mindset seeks to dismantle silo thinking and begins to explore the continuum of an ecosystem, and the possibilities this generates. Equally important to this decompartmentalisation is the desire to embrace all disciplines and professions. This manifests not just in effective inter-disciplinary (or trans-disciplinary) thinking, but also recognises that most learning will occur at the crossover or bridge between disciplines. This in itself is just one aspect of embracing diversity in its fullest meaning. Where a traditional management view of diversity frequently becomes bogged down in administrative detail, in the world of complexity greater diversity is one of the key enablers of success.

In parallel with the leadership style that opens horizons in every possible way, another important facet for success is that leadership needs to be embedded throughout the organisation at all levels and empowered to cross all boundaries. Ultimately, the system is better represented as a network rather than as a hierarchy. The network is only as strong as its relationships and connections, and repeatedly the evidence points to the successful leader's desire to seek out and make new connections, and to set the pattern for this to be the open culture within the system. An organisation that succeeds in embracing diversity and building connections is one which ultimately becomes self-learning. Indeed, the model just described has a substantial parallel in the working of the brain.

An organisation which is self-learning is more resilient to uncertainty, and is clearer about where it is going and how those goals can be achieved, including the dual challenge of improving quality and efficiency in tandem.

Perhaps one of the surprising emergent ideas is that some concepts that had increasingly become redundant for want of political correctness are re-emerging. The concept of power needs to be rehabilitated, because there is no doubt that social movements and networks function through power bases, even though these may not reflect the conventional command and control power base which in complex systems needs to be applied in homoeopathic

Case study

Using leadership to enable cultural change at system level – a case study from Southern Health NHS Foundation Trust

Southern Health NHS Foundation Trust (SHFT) is a newly merged organisation providing community and mental health services. The trust's vision and strategy is based on integrating service delivery across Hampshire's health and social care system. Through doing this it aims to deliver enhanced clinical outcomes, an improved patient experience, and slicker, more cost-effective services. The delivery of this strategy relies on a shift in way people behave. Staff working for SHFT, other provider organisations and service users across Hampshire all need to behave differently. Leadership is considered the key enabler to driving this change. This is based on the premise that behaviour is influenced by consequences and those in leadership roles are in a position to exert direct and impactful consequences on others. The steps below summarise the actions taken by the trust to bring about sustainable cultural change across the system through effective leadership.

Step 1: The creation of a set of values that define the culture the trust aspires to have and will need if it is to deliver key outcomes. Embedded in these values are the attitudes, beliefs and behaviours essential for integrated working; innovation, a willingness to take initiative and desire to work productively and efficiently.

Step 2: The translation of the values into a behavioural competency framework which defines what type of leadership is required at each level of the organisation both now and in the future. These have been defined not just in behavioural terms but also in relation to how people need to devote their time, skills and the values intrinsic to effective leadership at each level.

Step 3: The implementation of consequences across the system to reinforce effective and desirable behaviours. Three elements make up this phase:

- working with external partners to develop assessment processes capable of attracting and appointing talented leaders
- identifying the leadership roles most critical to driving change across the health and social care system, and bringing these diverse groups together to develop their leadership capability, build their relationships and the level of trust between them
- implementing consequence management tools that identify and reward individuals and teams for delivering key outcomes, ranging from behaviourally based appraisal processes to reward systems that provide immediate and valued reinforcement.

This approach, coupled with a clear strategy that is compelling to all parties, has enabled SHFT to deliver improved outcomes across the health and social care system in Hampshire. This has led to significant reductions in hospital admissions and length of stay for frail elderly people, a reduced dependency on inpatient care in mental health, and co-ordinated and joint response with social care to the needs of patients, all of which enables patients to live more independently and staff to work more productively and efficiently. The key element to this success has been insightful leadership and commitment from the SHFT executive team which has been able to create a culture that drives success and which others want to be a part of.

doses. A second of these important departures is that toxicity and variation (in small doses) become crucial to success within complex systems, even though the goal of simple systems is to drive these out.

We summarise our findings in the seven guiding messages to leaders which we have already introduced:

- go out of your way to make new connections
- adopt an open, enquiring mindset, refusing to be constrained by current horizons
- embrace uncertainty and be positive about change – adopt an entrepreneurial attitude
- draw on as many different perspectives as possible; diversity is non-optional
- ensure leadership and decision-making are distributed throughout all levels and functions
- establish a compelling vision which is shared by all partners in the whole system
- promote the importance of values – invest as much energy into relationships and behaviours as into delivering tasks.

We hope this work provides inspiration for people to embrace complexity and uncertainty as the opportunity to trigger new ways of viewing the requirements of leadership. Traditional competence-based leadership development will not hack it in this world of surprises, paradoxes and absurdities. However, a new mindset has every chance of powering whole systems to unpredictable success, potentially with greater satisfaction and ownership distributed in the most unlikely of stakeholders.

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