

Supporting the engagement of doctors in training in quality improvement and patient safety

This article discusses how doctors in training and medical students' routine, formal and meaningful engagement in quality improvement initiatives is a vital component of establishing a 'culture of care'.

Introduction

One of the most dangerous phrases, particularly when patient safety concerns are raised, is 'we've always done it this way'. While evidence-based medicine requires clinical activity to be based on tried and tested proven evidence, reliance on often-unquestioned cultural assumptions about ways of working can pose real risks to patient safety. Medical errors are one of the leading causes of patient harm, with approximately 10–20% of patients seen in either secondary or primary care experiencing an adverse event (The Health Foundation, 2011a). A cultural shift is therefore needed which facilitates a questioning of assumptions, promotes system changes and locates patient safety and health improvement at the heart of all patient-centred care.

This cultural shift also involves enabling all employees of health-care organizations to realize their duty to identify and reduce the risks to patient safety (Berwick, 2013). It requires embedding systems of sustainable quality improvement into organizations' ethos (e.g. through Deming's 'System of Profound Knowledge') (Deming, 1993) with education and training needed at all levels to equip doctors with the understanding,

Dr Alex Till is *Psychiatric Core Trainee, School of Psychiatry, Health Education North West - Mersey, Liverpool L3 4BL,*

Dr Jay Banerjee is *Consultant in Emergency Medicine and Associate Medical Director for Clinical Quality and Improvement, University Hospitals of Leicester NHS Trust, Leicester, and Professor Judy McKimm* is *Professor of Medical Education and Director of Strategic Educational Development, College of Medicine, Swansea University, Swansea*

Correspondence to: *Dr A Till*
(alexstill54@gmail.com)

skills and behaviours to effect widespread cultural change. This article discusses four interlinked themes identified from the literature and actual service changes that underpin this cultural shift in relation to educating doctors in training for health-care improvement.

A four-cornered approach

Contemporary international literature on service development, health improvement, patient safety and dominant rhetoric in reports on poor or sub-optimal health care highlight four recurrent organizational themes necessary to provide truly patient-centred care:

- The importance of culture
- Facilitating clinicians' active engagement in quality improvement
- Building sustainability
- Leadership and management development.

These themes will each be discussed in relation to how widespread and sustainable change towards a quality improvement culture might be implemented, with particular emphasis on doctors' education and training.

The importance of culture

Following a series of landmark cases (including the Laming Report (Laming, 2003) and the Bristol Inquiry (Kennedy, 2001)) UK public sector health and social care organizations and systems established much more robust systems of governance, quality assurance and monitoring. More recently, the Francis Inquiry (Francis, 2013), the Keogh review (Keogh, 2013), the Berwick report (Berwick, 2013) and the Andrews report (Andrews and Butler, 2014) have highlighted the need for even more stringent control systems, which have similarly been echoed internationally (Emslie et al, 2002).

In the NHS, clinical governance, quality assurance and clinical audit systems

have been set in place to enable organizations to monitor, govern and improve health care. Quality assurance was intended to be 'the system through which NHS organisations are accountable for continuously improving the quality of their care' (Sally and Donaldson, 1998) and clinical audit has been described as 'a way to find out if healthcare is being provided in line with standards and where there could be improvements' (NHS England, 2014). Clinical audit is now routine throughout the NHS and all doctors in training and many medical students now engage in audit activities. However, Jamtvedt et al (2006) point out that the tendency to rely on clinical audit as an intervention to change clinical practice is misplaced and through using this alone, health-care organizations will only make improvements that are of 'small to moderate' effect.

While the now routine involvement of students and doctors in training in clinical audit must be commended, the hierarchical nature of health care means that the culture of quality assurance is driven from the top down. Clinical 'engagement', from the perspective of the student or doctor in training, is therefore typically limited to data collection and report writing on behalf of someone else (Nettleton and Ireland, 2000). Without their engagement from its conception, the majority are disinterested and unmotivated in the process and for many the system becomes a 'tick box' exercise (Hillman and Roueché, 2011). This means that potential innovation in practice is stifled and opportunities for a 'fresh perspective' on health-care systems are limited. Bagnall (2012) goes further, suggesting that there is a widespread lack of interest in and disregard for trainees' innovative improvements. This suppresses trainees' energy and willingness to contribute as agents for change and leaves

them disheartened, disillusioned and ultimately, dangerously disengaged (Bagnall, 2012).

Creating a culture of health care improvement therefore requires shifting the focus of attention beyond systems governed by quality assurance, towards a new culture of quality improvement (Dharamshi and Hillman, 2011). Defined by Øvretveit (2009) as 'achieving better patient experience and outcomes through systematic change methods and strategies which changes provider behaviour and organisation', this revitalized and proactive perspective should incorporate the recognition of doctors in training as 'valuable eyes and ears' on the frontline (Francis, 2013) and enable them to act as powerful agents for change throughout their careers by engagement in systematic quality improvement processes at an early stage.

Facilitating clinicians' active engagement in quality improvement

Engaging students and doctors in training in real, systematic health and quality improvements is essential for effecting cultural change but many complex challenges exist in facilitating training and education in quality improvement (Mosser et al, 2009). Training requirements for career progression are already highly stringent and demanding. The high standards and involvement in numerous extra-curricular activities expected, without formal time allocated in job plans, often force doctors in training to seek 'out of programme' activities to gain their Certificates of Completion of Training (CCT).

It has been suggested that the training system needs to see quality improvement as a core responsibility intrinsic to professional values rather than an 'add on' for those who are particularly interested (Medical Professionalism Project, 2002). This point is reiterated in professional standards which require responsible and compassionate clinicians to help health-care organizations develop systems whereby safety and high quality clinical care supersedes all other priorities and is paramount in all clinical and management activities (e.g. General Medical Council, 2013).

A key challenge in fully engaging doctors in training involves generating enthu-

siasm among more senior clinicians for quality improvement initiatives. Often this can be problematic as a result of the 'time stealers' (e.g. staff shortages, out-of-hours' work, administrative burdens) in health service provision, therefore time must be made for mandatory quality improvement activities in already tightly scheduled postgraduate medical curricula (Gosfield and Reinertsen, 2003; Reinertsen et al, 2007).

Prochaska and Velicer's (1997) model of transtheoretical change highlights that without widespread practical training in quality improvement, the behaviour and attitudes of the majority of trainees will not progress beyond 'pre-contemplation' or 'contemplation', i.e. falling short of 'engagement'. It must also be recognized that while quality improvement activities will continue to attract 'innovators' and 'early adopters' (Rogers, 1962), the NHS will struggle to attract the mass 'early and late majority' required to enable it to survive, thrive and become one of the leading and safest health-care institutions in the world (Berwick, 2013; Keogh, 2013).

To facilitate this improvement, existing health-care leaders, managers and educators need to synergistically work together to build a symbiotic relationship between leadership and quality improvement by transforming the education of doctors in training to one where they are all provided with the practical skills to directly implement quality improvement into clinical practice (Boonyasai et al, 2007).

Building sustainability

The authors have highlighted the need for a cultural shift which embraces and promotes a quality improvement culture and fully engages doctors in training. If this is to become widespread and routine throughout the NHS, the shift needs to be managed at a national level with agreed quality improvement methodologies and curricula that requires training in such methodologies. The frequency with which doctors rotate through departments, trusts or health boards and regions throughout the UK and beyond is both a strength and a weakness. While this can facilitate learning and sharing of experiences (Dharamshi and Hillman, 2011) the danger is that, without establishing a sustainable, agreed methodology for quality improvement

teaching and project coordination, it will be compromised by the same limitations impacting on clinical audit: sporadic, short lived and uncoordinated projects ('projectitis'). The situation is exacerbated for the current cohorts of doctors in training as many of their supervisors and seniors themselves have little experience in quality improvement.

While no single, simple initiatives are currently implemented across all NHS organizations, a range of activities is ongoing with central collation and evaluation of their effectiveness (e.g. the NHS Improving Quality activities www.nhsiq.nhs.uk). Other national initiatives provide excellent external quality improvement resources, e.g. those of the Institute for Healthcare and Improvement Open School (www.ihl.org/education/ihlopen-school/Pages/default.aspx) and rapidly growing project banks, such as BMJ Quality (<http://quality.bmj.com>) or The Network (www.the-network.org.uk).

Incorporating these resources routinely into training curricula would tap into trainees' extrinsic motivation and their desire to build competitive curriculum vitae through innovations, presentations and publications, as well as developing a quality improvement approach as part of everyday clinical practice. However, enabling individuals to engage in their own quality initiatives could potentially pose risks to organizations owing to a lack of alignment of quality improvement projects with the strategic vision and direction of the organization. Working through quality improvement 'units' and organizational 'leads' with external advice and input helps mitigate such risks and build sustainable improvements and learning organizations (Senge, 1990).

While 'disruptive innovation' can stimulate widespread change, a quality improvement approach primarily aims to instil 'adaptive innovation' through small-scale tests of change or plan-do-study-act cycles. Clinicians should therefore be encouraged and empowered to build on rather than disrupt existing practice by overcoming health-care problems on the frontline (Kenagy, 2009). This requires the formation of cohesive links between formal and informal networks within and between organizations, with connections extending to an executive level (Battilana

and Casciaro, 2013). Internal quality improvement project banks are integral to this and must be coordinated carefully among not only doctors in training but all employees engaged in quality improvement. Establishing internal networks of key stakeholders can help turn vision into reality, and is another key factor in providing doctors in training with the support, mentorship and opportunities necessary to facilitate quality improvement. However, this does require senior clinicians to be enthusiastic about and ideally personally engaged in, innovation and improvement activities which is not always the case. Here, organizations may need to leverage regulatory requirements, such as the General Medical Council's (2012) mandate for quality improvement activity to be incorporated into doctors' appraisal and revalidation.

A combination of the activities outline above can help engage doctors at all levels to build and embed sustainable, clinician-led health-care improvements (Tregunno et al, 2003).

Leadership and management development

The last set of activities identified through the literature and commentaries needed to embed sustainable quality improvements are those relating to leadership development. Throughout the last decade, the call for clinical leaders and managers has grown louder (Darzi, 2008; Spurgeon et al, 2011; West et al, 2014), with increasing understanding of what this leadership should comprise and what development is needed. The NHS approach has moved from purely a management focus, to one founded on hero-leaders (The King's Fund, 2011), through to consideration of transformational, engaging and shared leadership (Alimo-Metcalfe and Alban-Metcalfe, 2005), and then finally, to the current conceptualisation, that 'collective leadership' is required (West et al, 2014). Although only recently foregrounded in health care, the philosophy and premise of collective leadership lies at the heart of medical professionalism, incorporates a core responsibility to regulatory bodies, and is fundamental to a health-care system founded on meeting universal need (Medical Professionalism Project, 2002; General Medical Council, 2013).

This rhetorical and conceptual shift about what leadership approach is required to improve patient care (which is partly a response to the acknowledgement that neither 'new managerialism' nor transformational leadership have worked) is underpinned by many leadership development activities. Activities include formal award bearing programmes, 'in-house' training and online leadership development. These activities have, until recently, been underpinned by a raft of leadership frameworks which set out the core competencies that all health and social care workers should attain at various stages as they progress through their career.

The NHS Healthcare Leadership Model (NHS Leadership Academy, 2013) (*Figure 1*) takes a different approach from earlier competency frameworks (which have been criticized for being reductionist) and focuses on the leadership behaviours that the NHS must foster to provide the high quality patient care which has been proven to be lacking following the aforementioned reports on NHS failings (Francis, 2013; Keogh, 2013; Andrews and Butler, 2014). These leadership behaviours are defined under nine dimensions which reflect an emphasis on care, compassion and collective responsibility (*Figure 1*).

The way these behaviours are described for all NHS health professionals marks an explicit sea change from an individualist to a collective leadership approach and so doctors will need to move away from a

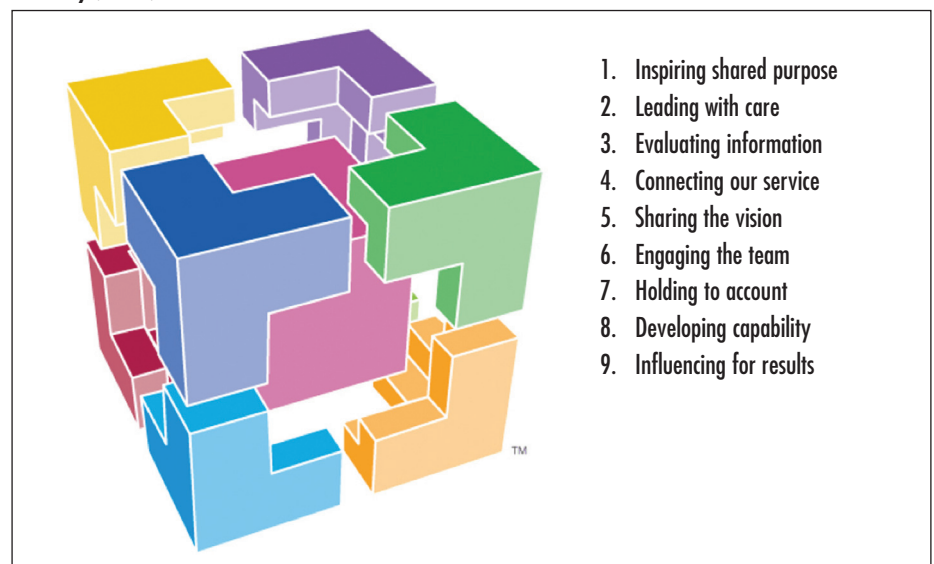
traditional 'command and control' hierarchical leadership style towards a collective leadership style (West et al, 2014). Leadership development and support therefore needs to equip doctors with the knowledge, skills and behaviours to allow them to engage with and facilitate this culture shift. As well as developing self-insight, leadership skills, and an understanding of systems and organizations, all clinicians should have quality improvement science embedded in their education and training from an early stage. This approach will help enable doctors in training to take responsibility for compassionate and effective patient care, develop quality improvement as 'business as usual' for clinicians and realize Berwick's vision for the NHS to be one of the leading health-care institutions in the world (Berwick, 2013; Till et al, 2014).

Conclusions

Health-care organizations, and the NHS in particular, typically operate as highly complex operational structures: with increasing pressure to meet stakeholder demands and drive innovation, providing high quality patient care in this environment has never been more challenging.

We must move away from systems of quality assurance that measure and promote compliance with rigid standards, and develop a quality improvement culture (Hillman and Roueché, 2011). Quality improvement at its core is 'the combined and unceasing

Figure 1. The nine leadership dimensions of the Healthcare Leadership Model. From NHS Leadership Academy (2013).



efforts of everyone (health-care professionals, patients and their families, researchers, payers, planners and educators) to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning)' (Batalden and Davidoff, 2007). Embedding this approach will provide a better patient experience and outcomes that do not just depend on health-care provision but on many interlinked social and economic factors.

Integral to this ideological shift is investment and training in patient safety, quality improvement science and leadership development. Mobilizing doctors in training as agents for change is essential. They must be afforded the opportunity to actively engage with quality improvement initiatives in local organizations and networks to make practical changes to patient care (The Health Foundation, 2011b; Berwick, 2013). Without organizational and 'shop floor' support and a combination of theoretical and experiential learning to develop quality improvement skills, there is a risk that doctors in training will become frustrated and disengaged. As Bagnall (2012) reminds us, formal incorporation of quality improvement science at all levels of medical education is crucial to harness this large yet under-used part of the medical workforce to deliver meaningful quality improvements and provide high quality, patient-centred care throughout the whole service. **BJHM**

Figure 1 is reproduced courtesy of the NHS Leadership Academy.

Conflict of interest: none.

- Alimo-Metcalfe B, Alban-Metcalfe J (2005) Leadership: Time for a New Direction? *Leadership* **1**: 51–71
- Andrews J, Butler M (2014) *Trusted to Care: An independent review of the Princess of Wales Hospital and Neath Port Talbot Hospital at Abertawe Bro Morgannwg University Health Board*. Dementia Services Development Centre and The People Organisation
- Bagnall P (2012) *Facilitators and Barriers to Leadership and Quality Improvement*. The King's Fund Junior Doctor Project. The King's Fund, London
- Batalden PB, Davidoff F (2007) What is "quality improvement" and how can it transform healthcare? *Qual Saf Health Care* **16**: 2–3
- Battilana J, Casciaro T (2013) The network secrets of great change agents. *Harv Bus Rev* **91**(7-8): 62–8
- Berwick D (2013) *A promise to learn – a commitment to act: Improving the safety of patients in England*. National Advisory Group Report on the Safety of Patients in England. Department of Health, London
- Boonyasai RT, Windish DM, Chakraborti C, Feldman LS, Rubin HR, Bass EB (2007) Effectiveness of teaching quality improvement to clinicians - a systematic review. *JAMA* **298**(9): 1023–37
- Darzi A (2008) *High Quality Care For All: NHS Next Stage Review Final Report*. The Stationary Office, London
- Deming WE (1993) *The New Economics*. MIT Press, Cambridge
- Dharamshi T, Hillman T (2011) Going beyond audit. *BMJ Careers* 5 Jul <http://careers.bmj.com/careers/advice/view-article.html?id=20003642> (accessed 9 December 2014)
- Emslie S, Knox K, Pickstone M (2002) *Improving patient safety: insights from America, Australian and British healthcare*. ECRI Europe and Department of Health. ECRI Europe, Welwyn Garden City
- Francis R (2013) *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry: executive summary*. House Paper 947. The Stationery Office, London
- General Medical Council (2012) *Supporting information for appraisal and revalidation*. General Medical Council, Manchester
- General Medical Council (2013) *Good Medical Practice*. General Medical Council, Manchester
- Gosfield AG, Reinertsen JL (2003) Doing well by doing good: Improving the business case for quality. www.uft-a.com/PDF/uft-a_White_Paper_060103.PDF (accessed 9 December 2014)
- Hillman T, Roueché A (2011) Quality improvement. *BMJ Careers* 8 Apr <http://careers.bmj.com/careers/advice/view-article.html?id=20002524> (accessed 9 December 2014)
- Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD (2006) Audit and feedback: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* (2): CD000259
- Kenagy J (2009) *Designed to Adapt: Leading Healthcare in Challenging Times*. Second River Healthcare Press, Bozeman, MT
- Kennedy I (2001) *Learning from Bristol: the report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995*. Bristol Royal Infirmary Inquiry, (Cmnd 5207). The Stationery Office, London
- Keogh B (2013) *Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report*. NHS Choices, London
- Laming H (2003) *The Victoria Climbié Inquiry*. The Stationery Office, London
- Medical Professionalism Project (2002) Medical professionalism in the new millennium: A physicians' charter. *Lancet* **359**(9305): 520–2
- Mosser G, Frisch KK, Skarda PK, Gertner E (2009) Addressing the challenges in teaching quality improvement. *Am J Med* **122**(5): 487–91 (doi: 10.1016/j.amjmed.2009.01.01)
- Nettleton J, Ireland A (2000) Junior doctors' views on clinical audit - has anything changed? *Int J Health Care Qual Assur* **13**: 245–53
- NHS England (2014) Clinical Audit. www.england.nhs.uk/ourwork/qual-clin-lead/clinaudit (accessed 9 December 2014)
- NHS Leadership Academy (2013) *The Healthcare Leadership Model, version 1.0*. NHS Leadership Academy, Leeds
- Øvretveit J (2009) *Does improving quality save money? A review of the evidence of which improvements to quality reduce costs to health service providers*. Health Foundation, London
- Prochaska JO, Velicer WF (1997) The transtheoretical model of health behavior change. *Am J Health Promot* **12**: 38–48
- Reinertsen JL, Gosfield AG, Rupp W, Whittington JW (2007) *Engaging Physicians in a Shared Quality Agenda*. IHI Innovation Series white paper. Institute for Healthcare Improvement, Cambridge, MA
- Rogers EM (1962) *Diffusion of innovations*. Free Press, New York
- Scally G, Donaldson LJ (1998) Looking forward: Clinical governance and the drive for quality improvement in the new NHS in England. *BMJ* **317**: 61–5
- Senge PM (1990) *The Fifth Discipline*. The art and practice of the learning organization, Random House, London
- Spurgeon P, Clark J, Ham C (2011) *Medical Leadership: From dark side to centre stage*. Radcliffe Publishing, London
- The Health Foundation (2011a) *Research scan: Levels of harm*. The Health Foundation, London
- The Health Foundation (2011b) *What's leadership got to do with it?* Exploring links between quality improvement and leadership in the NHS. The Health Foundation, London
- The King's Fund (2011) *The future of leadership and management in the NHS: No more heroes*. The King's Fund, London
- Till A, Pettifer G, O'Sullivan H, McKimm J (2014) Developing and harnessing the leadership potential of doctors in training. *Br J Hosp Med* **75**(9): 523–7 (doi: 10.12968/hmed.2014.75.9.523)
- Tregunno D, Ginsburg L, Clarke B, Norton P (2013) Integrating patient safety into health professionals' curricula: a qualitative study of medical, nursing and pharmacy faculty perspectives. *BMJ Qual Saf* **0**: 1–8 (doi: 10.1136/bmjqs-2013-001900)
- West M, Eckert R, Steward K, Pasmore B (2014) *Developing collective leadership for health care*. The Centre for Creative Leadership and The King's Fund, London

KEY POINTS

- Recent reports and case studies identify a need for a culture shift towards quality improvement and patient-centred care.
- Medical students and doctors in training are central to effecting widespread cultural change but are currently under-used.
- Organizational and system change at all levels is needed to fully integrate quality improvement within cultural shifts.
- Embedding quality improvement into education and training curricula and supporting doctors to engage in quality improvement initiatives will help clinicians be more effective health-care leaders.