Learning from error: leading a culture of safety

ABSTRACT

A recent shift towards more collective leadership in the NHS can help to achieve a culture of safety, particularly through encouraging frontline staff to participate and take responsibility for improving safety through learning from error and near misses. Leaders must ensure that they provide psychological safety, organizational fairness and learning systems for staff to feel confident in raising concerns, that they have the autonomy and skills to lead continual improvement, and that they have responsibility for spreading this learning within and across organizations.

Organizational culture describes the dynamic complex array of relationships and unwritten rules, as well as values, beliefs and assumptions, that govern how individuals and groups act and interact with one another (Schein, 2010). 'Created, embedded, evolved, and ultimately manipulated by leaders' (Schein, 2010), within the NHS, cultural dynamics have played out with grave consequences.

In the UK, the inquiry into the failings at Mid-Staffordshire NHS Foundation Trust highlighted how organizational and clinical leadership failed to create and embed a culture of safety and ultimately led to questions being asked across the NHS more generally (Francis, 2013). In response, the UK Government asked the Care Quality Commission to undertake a comprehensive inspection of all health-care providers across five key lines of enquiry, encompassing whether services were 'safe, effective, caring, responsive and well-led' (Care Quality Commission, 2017). The Care Quality Commission concluded that the impact of leadership on the overall performance of a provider was profound, such that whether services were 'well-led' or not was found to be the most significant predetermining factor of all other aspects (Care Quality Commission, 2017). Consequently, the 'next phase' of inspection will focus on only one core service (determined by previous inspection outcomes), alongside a cross-cutting 'well-led' evaluation (Care Quality Commission, 2017).

Dr Russell Gibson, Academic Clinical Fellow, School of Medicine, Exeter University, Exeter EX1 2LU

Mr Alexander Armstrong, Plastic Surgery Registrar, Plastic Surgery Department, Queen Alexandra Hospital, Portsmouth; National Medical Director's Clinical Fellow 2016–17

Dr Alex Till, Psychiatric Core Trainee, School of Psychiatry, Liverpool; Executive Leadership and Management Fellow, Mersey Care NHS Foundation Trust; Honorary Clinical Senior Lecturer, Swansea University Medical School; National Medical Director's Clinical Fellow 2016–17

Professor Judy McKimm, Professor of Medical Education and Director of Strategic Educational Development, School of Medicine, Swansea University School of Medicine, Swansea

Correspondence to: Dr R Gibson (russell.gibson@nhs.net)

Creating a culture conducive to continual improvement

The evidence is clear. Leadership impacts on the quality of care provided through the culture of the organization. However, creating a culture conducive to continual improvement is challenging in a complex organization such as the NHS which comprises multiple cultures and subcultures, tribes and territories. With rising demand in the context of constrained resources, austerity and low morale in much of the health workforce, major cultural change becomes increasingly difficult. Furthermore, in a safety critical industry such as health care, where regulation and the consequences of failure can breed fear, a further challenge is the 'culture of blame and defensiveness which pervades much of the NHS, and which prevents lessons being learned and adopted following clinical failure' (House of Commons Public Administration Select Committee, 2015).

A key requirement for the cultural shifts called for in the NHS includes a fair and just culture, where compassion and collective leadership replace traditional hierarchical structures and approaches, and where all front-line staff feel capable and able to raise concerns, challenge current practice, and innovate for continual improvement. Distributing leadership and empowering individuals who have the greatest expertise and/or motivation to achieve change, i.e. front-line staff, allows them to take 'responsibility for the success of the organisation as a whole – not just for their own jobs or work area' (West, 2014).

Emphasizing the importance of front-line staff in identifying and rectifying safety concerns, as well as providing the autonomy, visibility and recognition for doing so, can help to embed this style of leadership in the NHS. This is a crucial step in ensuring the long-term sustainability and success of the NHS and is integral to implementing a culture of safety. As outlined in *Figure 1*, the Care Quality Commission (2017), in their report *The State of Care in Acute Hospitals*, highlighted the importance of leadership to implementing a culture of safety. Leonard and Frankel (2012) describe a culture of safety as having three key features:

- Psychological safety
- Organizational fairness
- A learning system.

This article will now describe how these features can be used to create a compassionate and fair culture within the NHS and how organizations can embed learning systems.

Psychological safety

Psychological safety has been defined as the perceived freedom of individuals to speak out about anything that puts the organization at risk (Edmondson, 2002). Without providing psychological safety, a toxic nature of fear builds within an organization, perpetuates poor practice, and risks serious harm and deaths when staff feel unable to speak out on safety issues (Bognár et al, 2008; Francis, 2013). To counter this, and promote patient safety, strong organizational and team leadership support are crucial factors for creating and sustaining a positive culture within an organization, for reducing fear of repercussions after reporting errors (Castel et al, 2015), and in setting standards to which all staff can strive to achieve (Schneider and Barbera, 2014).

Psychological safety is hard to establish and can be quickly eroded if leaders do not proactively foster trust, mutual respect and inclusiveness between and within teams engaged in quality improvement initiatives (Nembhard and Edmondson, 2006). If established successfully, however, psychological safety not only leads to positive incident reporting (Leonard and Frankel, 2012) but can also have a positive impact on clinical outcomes (Hansen et al, 2011). But this must be monitored. Assurance must be sought through formal staff surveys and more informal conversations so 'testing the temperature' to measure whether staff, at all levels, feel confident to raise concerns, that the leadership understands the current climate within their organization, and that leaders are able to act when necessary to improve the confidence of staff to speak out (Leonard and Frankel, 2012).

Organizational fairness

When front-line staff perceive high levels of blame from management, there is a negative impact on staff trust towards their organizations and reduced incident reporting (McKimm et al, 2015; Pattison and Kline, 2015). The most recent NHS Staff Survey revealed that only 70% of staff felt secure in raising concerns about safety issues while just over half (58%) had confidence that their organization would address concerns if they were raised (Picker Institute Europe, 2017). More worryingly, fewer than half of NHS staff (45%) felt that their organization treated staff who had been involved in incidents or near misses fairly (Picker Institute Europe, 2017). These results are seriously concerning, indicating that a large proportion of NHS staff feel unsupported, not listened to, and may even fear being blamed should they try to raise concerns about patient safety. But is this surprising when even the language used is borrowed from the judiciary? As Joe Rafferty, Chief Executive Officer of Mersey Care NHS Foundation Trust highlights, terms such as 'investigation', 'disciplinary hearings', 'warnings' and 'appeals' imply a threatening and punitive intent which compromises any effort to build a compassionate and collaborative culture focussed on learning from error (Rafferty, 2017).

> 'The overarching message from our inspections is that effective leadership, which is values-driven and has a strong culture of learning, delivers high-quality care. In hospitals rated good or outstanding, the trust boards actively engaged with staff, asking them how they needed to improve. They had worked hard to create a culture where staff felt valued and empowered to suggest improvements and question poor practice. Where the culture was based around the needs and safety of patients, staff at all levels understood their role in making sure that patients were always put first.'

Figure 1. *The State of Care in Acute NHS Hospitals* Report. From Care Quality Commission (2017).

Changing the language used by leaders is more than semantics, however; language gives 'cultural permission' for various attitudes, tone and behaviours: some helpful and positive, others more negative and potentially destructive.

> **'Cultural permission is a mantra, expressed in oft-used catch phrases and philosophies that move like waves through the organization. They get adopted and interpreted as actions to be followed. They become part of everyday lexicon and cultural idioms that people hear coming from the highest levels, and form a platform for what the organization believes and expects of its people' (Allen, 2012).**

We should therefore alter the language used to instead reflect organizational fairness, which incorporates professional accountability and responsibility, but acknowledges that errors are predominantly the result of systemic failures in the care provided rather than personal misconduct (Berwick, 2013).

It is time that organizations and their leadership take the concerns of front-line staff seriously and so embrace a two-way collaborative approach to learning from error and improving patient safety. It is essential to use the experience of front-line staff who understand and can identify human factors at play within their own health-care workplace and can apply systems thinking to learn from mistakes. This approach can help to harness the true value of learning from patient safety incidents with patient safety reporting systems that: 'provide warnings, point to important problems, and provide some understanding of causes. They [also] serve an important function in raising awareness and generating a culture of safety' (Vincent, 2007). Through such mechanisms, staff may not only provide fresh insights for improving care but also be more inclined to voice their concerns within a culture of open and honest learning to improve patient safety (Leonard and Frankel, 2012). More generally, through adapting as learning organizations (Senge, 1990), health-

> ‘Checklist fatigue’ recognizes that too many checklists reduce overall compliance and we must be mindful to ensure that there is cognitive engagement and ongoing learning.

care organizations can become ‘designed and managed to promote effective learning through a systems-based, highly connective approach’ (Till et al, 2016).

Learning system

Promoted by encouraging a proactive attitude towards safety, a learning culture is assessed at multiple levels with incident reporting and learning outcomes being observed throughout the organization. Front-line staff are frequently exposed to systemic defects that impair their ability to deliver safe and effective care, requiring the development of workarounds which only serve to perpetuate unsafe practice (Leonard and Frankel, 2012). Developing a learning system, in which front-line staff are encouraged to report concerns about unsafe practice and systemic defects, is key to using their insights.

Allied to this, support should be offered to staff through training in root cause analysis and standardized quality improvement techniques so that staff are not only empowered to raise concerns through the learning culture that exists but to directly implement and lead continual improvements through an established learning system across the organization.

However, establishing this intra-organizational connectivity is challenging, and if not carefully managed can lead to organizational silos, the so-called ‘Nut Island effect’ (Levy, 2001; McKimm et al, 2015). As highlighted in *Learning, Candour and Accountability* (Care Quality Commission, 2016), fragmented care and a lack of joined-up systems also contributes to organizations failing to learn lessons from the deaths of patients. Therefore, while it is important that teams take ownership of specific safety issues, there needs to be overarching, ‘joined-up’, inclusive leadership that provides intra- and inter-organizational approaches at both a local and national level to identify, analyse and share learning from issues impacting on patient care.

Moving forward

There are many examples of initiatives that put the principles outlined above into practice. This article describes four practical ways of developing a culture of safety.

Progressing beyond checklists

The World Health Organization Surgical Checklist was a giant leap forward in changing the culture and positively impacting on patient safety, but it is not without its risks. ‘Checklist fatigue’ recognizes that too many checklists reduce overall compliance and we must be mindful to ensure that there is cognitive engagement and ongoing learning (McConnell et al, 2012). Building on this, *Figure 2* outlines the evolution of national and local safety standards in invasive procedures as potential solutions to enhance the World Health Organization Surgical Checklist. These combine national and local learning from the analysis of near misses, serious incidents and never events with additional education and training.

Safety review meeting

Incorporating regular safety review meetings into regular practice may help to embed a focus on patient safety as part of a team’s culture, becoming ‘the way we do things round here’. These meetings provide a ‘safe space’ where staff are actively encouraged to contribute to discussions about patient safety issues. Similar to the concept of morbidity and mortality meetings, but with a wider and more proactive approach incorporating near misses and potential safety errors, regular safety review meetings use quality improvement methodology to make changes to practice. Regular team safety meetings have not only been shown to identify interventions to improve practice but also left staff with fewer concerns about receiving sanctions for raising safety issues (Bousatt et al, 2015; Nyflot et al, 2015).

Figure 2. The World Health Organization Surgical Checklist and the evolution of national and local safety standards in invasive procedures.

In June 2008, the World Health Organization launched ‘Safe Surgery Saves Lives’ (World Health Organization, 2008). The World Health Organization Surgical Checklist was introduced and is the most well-known and widely-used surgical checklist in the world. It was trialled in eight different countries around the world to demonstrate its adaptability to different surgical environments and has demonstrated a reduction of 4.0% ($P<0.001$) in surgical complications and a reduction of in-hospital mortality of 0.7% (1.5–0.8%; $P=0.003$) (McConnell et al, 2012).

Notwithstanding the strong evidence that the World Health Organization Surgical Checklist has a positive impact on patient safety, some risks are also associated with checklists. Decades of experience in the airline industry has shown that too many checklists reduce overall compliance, and despite systematic methods of evaluating, developing and distributing checklists (Hales et al, 2008) there can be negative effects related to extensive checklists used for a broad range of situations. This so-called ‘checklist fatigue’ emphasizes the importance of continual review and renewal, ensuring there is cognitive engagement and ongoing learning (McConnell et al, 2012).

In September 2015, the Surgical Never Event report introduced national safety standards in invasive procedures. National safety standards in invasive procedures bring together national and local learning from the analysis of near misses, serious incidents and never events through a set of recommendations to provide safer care for patients undergoing invasive procedures. National safety standards in invasive procedures were not designed to replace the existing WHO Surgical Checklist, but enhance it through additional education and training (NHS England, 2015).

The aim of national safety standards in invasive procedures is to encourage organizations to review their current practice and ensure that they are compliant with national standards. This will be done by organizations working together with staff to develop their own bespoke set of ‘local safety standards for invasive procedures’ which can then be shared and published, to encourage system-wide learning and improvement (NHS England, 2015).

Patients and their caregivers

Patients and caregivers also need the psychological safety and freedom to speak out about patient safety concerns. Patients and their caregivers are often highly tuned to when things go wrong but are all too often excluded from the care-giving process and must be included within any learning system moving forward (The Health Foundation, 2013).

Learning from the Netherlands

With a recent shift in priorities, the Dutch national patient safety reporting systems have moved away from quantifying harm to rating organizations according to the processes and systems they have in place to learn from incidents (Leistikow et al, 2017). This is enabling the learning capacity of organizations to be tracked over time, interventions to be directed towards the specific needs of the organization, and for organizations to move the tone away from punitive measures and apportioning blame towards a culture of collaborative improvement.

Conclusions

Values-driven, inclusive leadership, which emphasizes and promotes a strong culture of learning, is key to achieving high-quality care and should always be at the top of a leader's priorities, fed throughout the organization, balancing individual accountability with organizational responsibility (Berwick, 2013; Care Quality Commission, 2017). The increasing complexity and interdependency of the NHS poses a significant threat to the ability to learn from error and work collaboratively across team, organizational and system boundaries to achieve high quality care for patients. And while pockets of leadership excellence can exist within organizations, this is insufficient, with variations in the quality of care observed being linked to variations in the quality of leadership, both at a ward and organization level (Care Quality Commission, 2017).

Strong, collective, collaborative and inclusive leadership is therefore needed within organizations 'from board to ward' and must also be distributed across the wider health service environment. Leaders must ensure that they provide psychological safety, organizational fairness and learning systems for staff to feel confident in raising concerns, have the autonomy and skills to lead continual improvement, and responsibility for spreading this learning within and across organizations. An empowered workforce that is supported and expected to identify and make changes to practice is essential to embed and sustain a culture of patient safety across an organization. Astute leaders understand this, they meaningfully connect complex networks, they are willing to learn from errors and from others' experiences, and they establish high reliability systems to monitor and measure the culture of safety. **BJHM**

Conflict of interest: none.

KEY POINTS

- A recent shift towards more collective leadership in the NHS can help to achieve a culture of safety.
- Values-driven, inclusive leadership, which emphasizes and promotes a strong culture of learning, is key to achieving high-quality care.
- Patient safety should be at the top of a leader's priorities and fed throughout the organization, balancing individual accountability with organizational responsibility.
- Leaders must also ensure that they provide psychological safety, organizational fairness and learning systems for staff to feel confident in raising concerns.
- Front-line staff should have the autonomy and skills to lead continual improvement, and responsibility for spreading learning within and between organizations.

Allen K (2012) How language shapes your organisation. *Harvard Bus Rev* https://hbr.org/2012/07/how-language-shapes-your-organization (accessed 8 May 2017)

Berwick D (2013) *A promise to learn – a commitment to act.* Department of Health, London

Bognár A, Barach P, Johnson JK et al (2008) Errors and the burden of errors: attitudes, perceptions, and the culture of safety in pediatric cardiac surgical teams. *Ann Thorac Surg* **85**(4): 1374–1381. https://doi.org/10.1016/j.athoracsur.2007.11.024

Boussat B, Bougerol T, Detante O, Seigneurin A, François P (2015) Experience Feedback Committee: a management tool to improve patient safety in mental health. *Ann Gen Psychiatry* **14**: 23. https://doi.org/10.1186/s12991-015-0062-2

Care Quality Commission (2016) Learning, candour and accountability: A review of the way NHS trust review and investigate the deaths of patients in England. www.cqc.org.uk/sites/default/files/20161213-learning-candour-accountability-full-report.pdf (accessed 8 May 2017)

Care Quality Commission (2017) The State of Care in Acute NHS Hospitals. www.cqc.org.uk/content/state-care-nhs-acute-hospitals (accessed 8 May 2017)

Castel ES, Ginsburg LR, Zaheer S, Tamim H (2015) Understanding nurses and physicians fear of repercussions for reporting errors: clinician characteristics, organization demographics, or leadership factors? *BMC Health Serv Res* **15**(1): 326. https://doi.org/10.1186/s12913-015-0987-9

Edmondson A (2002) Managing the risk of learning: psychological safety in work teams. In: West M, Tjosvolf D, Smith K, eds. *International Handbook of Organisational Teamwork and Cooperative Working.* John Wiley & Sons, Chichester: 255–276.

Francis R (2013) Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry. Volume 1. www.gov.uk/government/uploads/system/uploads/attachment_data/file/279124/0947.pdf (accessed 8 May 2017)

Hales B, Terblanche M, Fowler R, Sibbald W (2008) Development of medical checklists for improved quality of patient care. *Int J Qual Health Care* **20**(1): 22–30. https://doi.org/10.1093/intqhc/mzm062

Hansen LO, Williams MV, Singer SJ (2011) Perceptions of hospital safety climate and incidence of readmission. *Health Serv Res* **46**(2): 596–616. https://doi.org/10.1111/j.1475-6773.2010.01204.x

House of Commons Public Administration Select Committee (2015) Investigating clinical incidents in the NHS. www.publications.parliament.uk/pa/cm201415/cmselect/cmpubadm/886/886.pdf (accessed 8 May 2017)

Leistikow I, Mulder S, Vesseur J, Robben P (2017) Learning from incidents in healthcare: the journey, not the arrival, matters. *BMJ Qual Saf* **26**(3): 252–256. https://doi.org/10.1136/bmjqs-2015-004853

Leonard M, Frankel A (2012) Thought paper: How can leaders influence a safety culture? www.health.org.uk/sites/health/files/HowCanLeadersInfluenceASafetyCulture.pdf (accessed 8 May 2017)

Levy PF (2001) The Nut Island effect. When good teams go wrong. *Harv Bus Rev* **79**(3): 51–59, 163.

McConnell DJ, Fargen KM, Mocco J (2012) Surgical checklists: A

detailed review of their emergence, development, and relevance to neurosurgical practice. *Surg Neurol Int* **3**(1): 2. https://doi.org/10.4103/2152-7806.92163
McKimm J, Coupe B, Edwards L, Gibson R, Morgan H, Paramore L, Ramcharn M (2015) Every ward is a Nut Island? Preventing good health-care teams going bad. *Br J Hosp Med* **76**(8): 478–482. https://doi.org/10.12968/hmed.2015.76.8.478
Nembhard IM, Edmondson AC (2006) Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *J Occup Behav* **27**: 941–966.
NHS England (2015) National Safety Standards for Invasive Procedures (NatSSIPs). www.england.nhs.uk/patientsafety/wp-content/uploads/sites/32/2015/09/natssips-safety-standards.pdf (accessed 8 May 2017)
Nyflot MJ, Zeng J, Kusano AS et al (2015) Metrics of success: measuring impact of a departmental near-miss incident learning system. *Pract Radiat Oncol* **5**(5): e409–e416. https://doi.org/10.1016/j.prro.2015.05.009
Pattison J, Kline T (2015) Facilitating a just and trusting culture. *Int J Health Care Qual Assur* **28**(1): 11–26. https://doi.org/10.1108/IJHCQA-05-2013-0055
Picker Institute Europe (2017) NHS Staff Survey 2016. www.nhsstaffsurveys.com/Page/1056/Home/NHS-Staff-Survey-2016 v (accessed 8 May 2017)
Rafferty J (2017) Establish the principles of a just culture for staff. *Health Serv J* https://www.hsj.co.uk/topics/workforce/establish-the-principles-of-a-just-culture-for-staff/7015553.article (accessed 8 May 2017)
Schein E (2010) *Organisational Culture and Leadership*. 4th edn. John Wiley & Sons, Cambridge
Schneider B, Barbera KM (2014) *Oxford Handbook of Organizational Climate and Culture*. Oxford University Press, New York
Senge P (1990) *The Fifth Discipline: the art and practice of the learning organisation*. Doubleday/Century Business, London
The Health Foundation (2013) Involving patients in improving safety. www.health.org.uk/sites/health/files/InvolvingPatientsInImprovingSafety.pdf (accessed 8 May 2017)
Till A, Amin M, McKimm J (2016) Leadership in learning organizations: a strategy for improvement. *Br J Hosp Med (Lond)* **77**(11): 620–623. https://doi.org/10.12968/hmed.2016.77.11.620
Vincent C (2007) Incident reporting and patient safety. *BMJ* **334**(7584): 51. https://doi.org/10.1136/bmj.39071.441609.80
West M (2014) Developing collective leadership for healthcare. www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/developing-collective-leadership-kingsfund-may14.pdf (accessed 8 May 2017)
World Health Organization (2008) Safe surgery saves lives. www.who.int/patientsafety/safesurgery/knowledge_base/SSSL_Brochure_finalJun08.pdf (accessed 8 May 2017)