Quality improvement in practice—part 1: creating learning systems

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Abstract

Applying quality improvement methods to solve complex quality issues involves people deeply. People discover solutions, test and adapt ideas, thereby giving them autonomy and control over the system in which they work. Focusing quality improvement on what matters most for staff and service users creates the opportunity to bring a deeper sense of meaning and connection to purpose, both of which are integral to joy in work. When applying quality improvement at scale within large organisations or systems, bringing teams together in learning systems can provide a critical structure to build skills, collaborate and learn from one another. This article describes the core elements of learning systems designed to support quality improvement and joy in work, illustrated through two examples. The framework can be applied at different levels of a system, including the individual, the team and the organisation, or even to a large improvement effort across organisational boundaries. The next article in this series will discuss the application of the joy in work framework to healthcare settings.

Key words: Complex systems; Joy in work; Learning systems; Quality improvement

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Introduction

Quality improvement has been widely embraced by healthcare organisations as a mechanism to involve people in the process of improving care (Jabbal, 2017). The pursuit of quality improvement helps to create learning organisations. It involves the application of a systematic method to solve complex problems, involving those closest to the issue in discovering and testing new ideas, and measuring improvement of the system over time (Shah, 2020). Quality improvement offers a powerful opportunity to leverage the lived experience, knowledge and creativity of all stakeholders to help solve quality and safety issues so that healthcare can be continuously improved. The application of quality improvement in healthcare has yielded multiple benefits, including the improvement of the patient experience and patient outcomes, as well as staff experience, productivity, efficiency and cost reduction (Shah and Course, 2018).

The concept of learning systems

At its heart, quality improvement is about coming together around a common challenge, testing new ideas that can make a difference, reflecting and learning. Supporting the change in behaviour and culture required to enable quality improvement to flourish in complex systems requires some redesign of the existing structures within healthcare organisations.

The hierarchical structure that dominates within healthcare is helpful in cascading information and in situations that require command and control. However, to give both staff and service users the permission and support to improve care, a second operating system that can facilitate improvement and innovation is needed (Kotter, 2012).

A learning healthcare system is defined as one in which science, informatics, incentives and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience (Institute of Medicine, 2007). A learning system should provide the opportunity, safety and mechanisms to enable people to raise their ideas and opinions freely, be creative in designing solutions, and learn from each other in pursuit of a common goal, without fear of failure or blame.
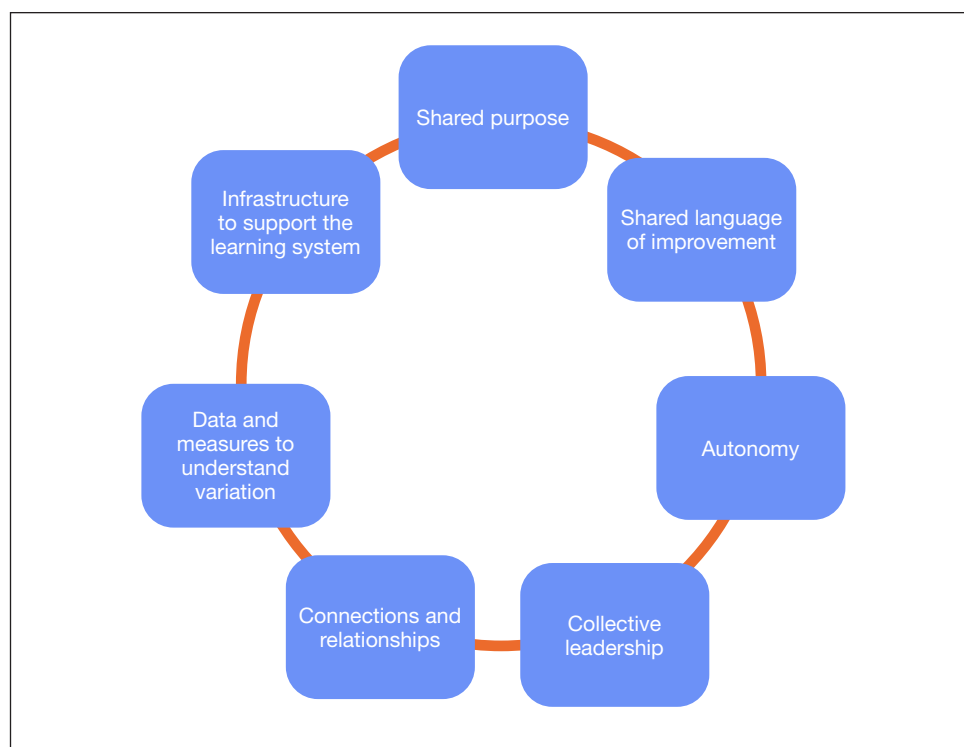
Figure 1. Key components required to support learning systems.

A system for learning will have been inherent in the design and delivery of all large-scale quality improvement collaboratives. Despite this, there is no standard format for designing the components of the learning system, which may partly explain the variation in effectiveness of quality improvement collaboratives (Wells et al, 2018; Zamboni et al, 2020). Little has been published to demonstrate the systematic application of learning systems to improve quality within a healthcare provider (Foley and Vale, 2017). However, Cincinnati Children's Hospital has been applying the theory of learning systems to develop collaborative improvement networks, which bring together actors (such as patients, families, clinicians and researchers), commons (where actors create and share resources) and infrastructure to support collaboration (Margolis et al, 2013).

The key elements required to design learning systems that support continuous improvement, according to the author's experience of leading quality improvement work, organisational and national level, are shown in Figure 1.

Shared purpose

The most important element of the learning system is shared purpose (Gifford et al, 2012). A large mixed-method evaluation of teams and organisations across NHS England found that patient satisfaction was highest in organisations that had clear goals at every level, but that clarity around goals was highly variable (Dixon-Woods et al, 2014).

With an improvement effort, shared purpose often comes from the project aim. The aim of any quality improvement project drives all activity. Therefore, taking time to ensure that the right people are involved from the outset, identifying the real issue that needs solving, ensuring that this aligns with what matters most to those service users and finding words that are authentic, meaningful and generate urgency are key to building shared purpose that can support learning. The process of identifying and articulating the shared purpose is as important as the end product. For the shared purpose to be truly powerful in guiding everyone's actions towards a common goal, every individual in the team needs to truly believe and feel a deep visceral connection to it.

Shared language of improvement

A common way to communicate is needed to facilitate group learning. The language of improvement needs to be able to bridge the gap between different professions and power

hierarchies. The use of quality improvement tools can allow all stakeholders to have an equal voice and power in determining how improvement is achieved (Kostal and Shah, 2021). In developing a shared language, a learning system will need to find a way to build understanding and fluency with the methods and tools of quality improvement, so that everyone involved can contribute and knowledge can be shared freely.

Autonomy

The application of quality improvement shifts power outside of the formal hierarchy to enable people to develop their own theories about what may make a difference and to try new ideas without fear of failure. In large-scale improvement, there is a delicate balance between bringing teams that are all working towards a common purpose together with a shared theory of change (such as flow or joy in work), while still devolving power and autonomy to each team to understand what matters most in their context and make the changes that they believe will make a difference.

Learning systems can create autonomy for the teams and individuals involved to feel able to influence the system and make changes by carefully designing spaces and connections. The presence of senior leaders within the learning system can help teams to test new ideas without fear of failure. The use of quality improvement tools can help with seeing the system from different perspectives, developing creative ideas and equipping people with a method for testing and learning. This allows change to be a structured in a step-wise way, even within very complex systems that can seem impossible to influence.

Collective leadership

Collective leadership has been described as 'the purposeful, visible distribution of leadership responsibility on to the shoulders of every person in the organisation' (West et al, 2014). Creating learning systems that support quality improvement will begin to flatten hierarchies and allow everyone, whether healthcare care staff or patients and families, the opportunity and skills to improve the system. The design of learning systems can support this by involving a diverse range of people, including patients, service users and family members, as well as staff from a variety of backgrounds and levels of experience. Power can also be redistributed by allocating leadership roles to those who hold no formal hierarchical role. In the author's experience, one of the most rewarding aspects of supporting quality improvement work is witnessing the emergence of new leaders from unexpected places, who have been given the opportunity and permission to improve the system for service users.

Connections and relationships

Bringing people together and creating safe spaces to share helps to build relationships within teams and across teams. This is critical to allow difficult issues to surface and be explored through emotional connection, and to ensure that people feel free to fail and learn in the pursuit of a common goal. Any learning system needs to develop ways for people to truly connect with each other as humans, not just as professionals. Within a team, this enables the development of psychological safety (Edmondson, 2018). It also helps to create the sense of camaraderie and togetherness that enables engagement and joy in work (Perlo et al, 2017). Creating horizontal connections between similar teams or teams attempting to solve the same type of issue can enable sharing and learning across different contexts, particularly when combined with the use of quality improvement tools and commonality of language. Storytelling can be a way into this deeper connection, fostering a deeper understanding and the ability to apply meaningfully learned knowledge and skills flexibly and creatively in different situations (Organisation for Economic Cooperation and Development, 2021).

Data and measures to understand variation

Learning systems provide the opportunity for teams to use both quantitative and qualitative data to understand and improve service quality and performance. This involves understanding the variation that exists within their own microsystem at team level, as well as learning from variation across teams. The use of data over time, shared

transparently, is key to supporting learning and adaptation (Shah, 2019). The mixed method evaluation by Dixon-Woods et al (2014) showed that NHS organisations put considerable time, effort and resources into data collection and monitoring systems, but the degree to which this is translated into actionable knowledge is highly variable. In learning systems, it is crucial to keep the burden of data collection minimal and to ensure easy access to information and insight in a transparent way, so that people can form theories and ideas to support improvement.

As with all complex systems, no single measure is sufficient to understand how the system is behaving, so a range of measures are needed, all aligned to the shared purpose. Best practice measurement should include outcome, process and balance measures (Donabedian, 1988). At team level, this will represent a range of measures to help understand how well the core purpose of the team is being achieved (outcome measure), how well the structures and processes that help to achieve the core purpose are working (process measures), and one or two measures that need to be monitored to ensure that they do not deteriorate (balancing measures). As larger learning systems are built across multiple teams or organisations to tackle a common goal, the outcome measure must align with the aim of the improvement effort. Standardising the outcome measure is essential to supporting learning from the variation across teams.

Infrastructure to support the learning system

The support that is required to innovate, improve and learn is different from that required to cascade information up and down the hierarchy. Therefore, the predominant hierarchical structure that exists within most healthcare systems is not optimal in enabling learning for continuous improvement (Kotter, 2012). Learning systems that support quality improvement are usually designed to tackle complex challenges that have not been solved before. Inevitably, this will be difficult work. Teams need close support through this journey, including access to improvement expertise and knowledge, and leadership support to provide permission and agency to make changes that challenge the prevailing ways of working. When designing systems that support learning, consideration will need to be given to how teams can easily access this support to accelerate their improvement work.

Creating learning systems at different levels of scale

For leaders who are guiding organisations towards becoming more improvement-minded, it will be important to build systems of learning at macrosystem (whole organisation), mesosystem (divisions or directorates), microsystem (individual teams) and even individual levels. The examples below show how to use this framework at two different levels of the system.

Organisational level

At East London NHS Foundation Trust, a provider of mental health, community health, primary care and specialist services to a population of approximately 1.8 million people across Bedfordshire, Luton and East London, shared purpose comes from a simple mission (to improve quality of life for all service users) and a single-page strategy (Figure 2). This was co-developed with staff, service users and partners through a series of workshops that involved over 1000 people to help develop the future direction of the organisation.

Shared language of improvement has been developed over several years through a concerted programme of quality improvement capability building, with training and application of the quality improvement method and tools at every level of the organisation. Autonomy and collective leadership is encouraged by giving permission to every team to tackle 'what matters most' to the service users and staff, with ideas pitched to local quality improvement forums for approval. The use of quality improvement as a method, with the accompanying tools and facilitated processes, enable involvement and inclusion of a diverse group of people to solve complex problems. Service users and carers are involved throughout the quality improvement process, and often taken on the leadership role for the improvement effort or local quality improvement forum. Connections and relationships are nurtured through networks that bring people together across the organisation around areas of common interest. An online platform for all quality improvement work enables everyone to see and learn from ideas that are, and
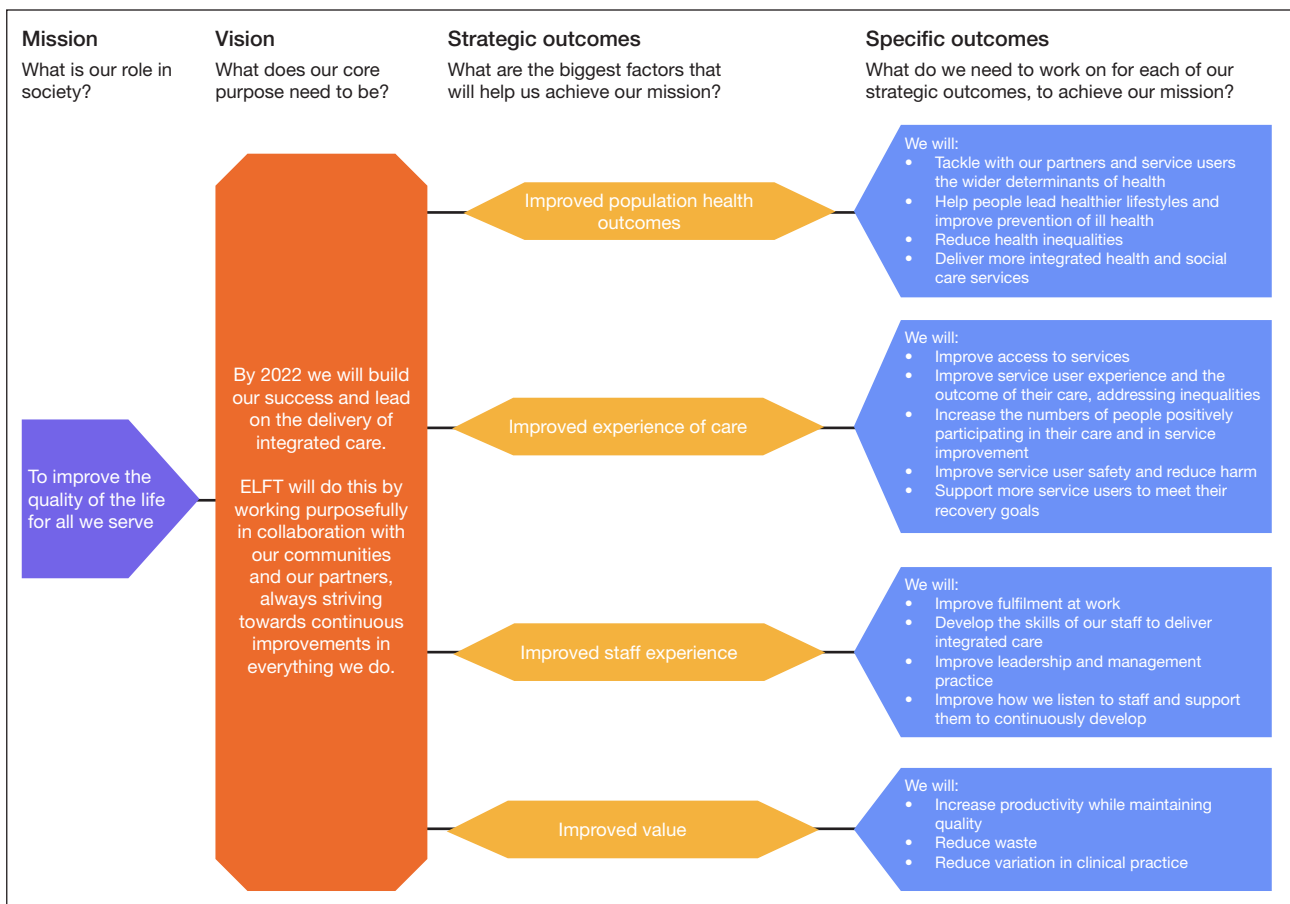
Mission	Vision	Strategic outcomes	Specific outcomes
What is our role in society?	What does our core purpose need to be?	What are the biggest factors that will help us achieve our mission?	What do we need to work on for each of our strategic outcomes, to achieve our mission?

To improve the quality of the life for all we serve

By 2022 we will build our success and lead on the delivery of integrated care.

ELFT will do this by working purposefully in collaboration with our communities and our partners, always striving towards continuous improvements in everything we do.

Improved population health outcomes

We will:
- Tackle with our partners and service users the wider determinants of health
- Help people lead healthier lifestyles and improve prevention of ill health
- Reduce health inequalities
- Deliver more integrated health and social care services

Improved experience of care

We will:
- Improve access to services
- Improve service user experience and the outcome of their care, addressing inequalities
- Increase the numbers of people positively participating in their care and in service improvement
- Improve service user safety and reduce harm
- Support more service users to meet their recovery goals

Improved staff experience

We will:
- Improve fulfilment at work
- Develop the skills of our staff to deliver integrated care
- Improve leadership and management practice
- Improve how we listen to staff and support them to continuously develop

Improved value

We will:
- Increase productivity while maintaining quality
- Reduce waste
- Reduce variation in clinical practice

Figure 2. Organisational shared purpose set out by, and reproduced with the kind permission of East London NHS Foundation Trust (ELFT) (2018).

have been, tested across the large, dispersed organisation. There is an intentional focus on storytelling to connect people to the deeper meaning and insights from other teams who have worked through complex issues using quality improvement.

Data are available to all teams in a transparent way, accessible to everyone within and outside the team in a way that helps to facilitate learning from variation. At the trust's board, there is a small number of measures that are viewed consistently over time, aligned to the key strategic objectives. Over several years of the organisation's improvement journey, a second operating system has been developed to support continuous improvement. Any team that is undertaking a quality improvement effort has access to a dedicated improvement coach, a senior sponsor, support to involve service users and carers, and access to learning and resources.

Across organisational boundaries

The Reducing Restrictive Practice Collaborative programme was the first national improvement collaborative in mental health in England, on which the author of this paper was the National Quality Improvement Lead. It aimed to reduce the use of restrictive practices in mental health and learning disability settings, using quality improvement and engaging teams across different healthcare providers. This was part of the mental health safety improvement programme, commissioned by NHS Improvement and delivered by the Royal College of Psychiatrists. The programme involved 38 wards from 25 different providers of mental health and learning disability service across England (Royal College of Psychiatrists, 2021).

Two workshops, involving a range of experts (service users, carers, researchers and clinicians) helped to design the learning system. This involved the development of a shared purpose: to reduce the use of restrictive practices (restraint, seclusion and rapid tranquilisation) by 30% by the end of the programme in April, 2020.

Shared language was facilitated through the application of a single improvement method across different contexts and organisations. For example, every team collected and displayed data in the same way and ran Plan Do Study Act cycles to test ideas. Autonomy and collective leadership were created by asking teams to volunteer to join the learning system rather than being nominated by organisations. This sense of agency was nurtured through regular reinforcement of the need to test innovative change ideas. Every team was encouraged to involve service users and carers from the outset and at every stage. This was reinforced by encouraging attendance and presentation by service users at regular learning sessions. Each participating organisation was asked to nominate a senior sponsor who could champion the work of the participating ward, help unblock challenges and give permission to the team to test changes.

Connections and relationships were fostered through intentional design of the bi-monthly learning sessions, which brought together all the project teams in person. Improvement tools and techniques were used in these sessions to encourage teams from across the country to meet each other, learn about the ideas being tested and consider how they would take this learning back to their work. This was supplemented by use of social media to share ideas and learning, a monthly newsletter that shared stories from wards, and an online platform where every team documented their data and tests of change. Measurement was standardised across all participating wards, so that the improvement community was able to identify and learn from positive deviance. The two design workshops helped to develop the standard outcome measures and operational definitions that were then used by all participating teams.

All teams taking part in the improvement collaborative were supported by a trained improvement coach, who facilitated team meetings and workshops to provide support with quality improvement methods and tools. The teams were given access to a rich set of resources at the start of the programme, developed by the design group and consisting of a theory of change with ideas, innovation and an evidence-base that the team could use in their own work (Figure 3). Critical to the success of the programme was a central programme team that consisted of four quality improvement coaches and a programme manager who had experience in improvement to guide the design and delivery of the learning system.

Figure 3. Theory of change provided to teams taking part in the reducing restrictive practice (RRP) programme, which brought together existing knowledge and ideas on the topic. Adapted with the kind permission of the Royal College of Psychiatrists (2021).

> ## Key points
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> - Quality improvement is an effective approach to involving people deeply in the process of solving complex quality and safety issues.
> - The development of learning systems that enable participation, collaboration and learning is crucial to the success of quality improvement efforts.
> - Key components of a learning system are shared purpose, common language of improvement, encouragement of participation, access to data and close support.
> - Learning systems can be developed at any scale, including team-level, department-level, organisation-level or even greater.

Conclusions

When designed well, learning systems can help facilitate a shift from a command-and-control approach to healthcare delivery, to one where everyone has a role and access to the support needed to continually improve care. The key components of effective learning systems summarised in this article are applicable to a single team, a large complex organisation, or a collaboration of teams across organisational boundaries towards a common goal.

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Conflicts of interest
The author declares that there are no conflicts of interest.

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