



Performance Improvement of Complex Healthcare Services

Whole System Rapid Improvement Events

Introduction

There has recently been considerable interest in lean thinking in the NHS. The NHS Institute for Innovation and Improvement has been supporting this work and is seeking to promote the widespread take up of lean across the NHS to support the productivity challenge. The NHS Confederation has recently published an excellent introduction called “Lean Thinking for the NHS” by Dan Jones and Alan Mitchell of the Lean Enterprise Academy UK¹.

It is clear from early work both in the NHS that considerable scope exists to improve patient care, staff satisfaction, systems performance and cost effectiveness by the widespread adoption of lean. This parallels the experience in other industry sectors – initially seen in the Japanese-led revolution within manufacturing. Rapid Improvement Events (RIEs) are a particular style of application of lean which pulls together representative stakeholders from across a service into a short series of workshops to apply improvement tools and to agree ‘quick hit’ system improvements. RIEs have been shown to provide a powerful momentum for rapid performance improvement, for example refer to the NHS Institute Service Transformation Team’s work at Hereford Hospitals helping the pathology and pharmacy departments to improve turnaround times and eliminate waste, through four-day rapid improvement events².

However, some acute clinical services and many patient services in community settings are more complex and multi-dimensional than the hospital processes where much of the lean effort is currently focussed. This paper argues that in such complex, non-linear services the lean tools apply less powerfully and need to be used within a wider ‘whole systems’ perspective. A road-tested, proven approach to ‘whole systems RIEs is presented which delivers significant, rapid, sustainable performance improvement in these situations.

The Benefits of Whole System RIEs

- The ‘whole system’ comes together in one room. All parties who own parts of the system are identified and invited to meet and to work with each other. Through the process they come to understand their inter-dependence. **Teams are built.**
- The teams are supported by experienced external facilitators who can bring a deep experience of applying ‘whole systems’ and ‘lean’ principles within both the health sector and outside. **Teams are well equipped and supported.**
- The team are taught the principles to unpick and solve inherently complex, multi-faceted, non-linear, systems problems. They are equipped with both ‘whole systems’ and ‘lean’ tools to apply to their system. **Novel, holistic solutions are found.**
- Rapid Improvement Events have a high profile and senior stakeholders are encouraged to back the RIE process and empower the nominated team to act. **Things get done.**
- The deliberately tight timescales of the RIE creates focus and a sense of urgency. **Things get done quickly.**
- Local organisation improvement leaders can learn about whole system rapid improvement principles and the approach by co-working with us. **The approach is transferable.**

¹ (<http://www.nhsconfed.org/docs/lean.pdf>)

² (Ref: www.institute.nhs.uk/ServiceTransformation/Lean+Thinking).



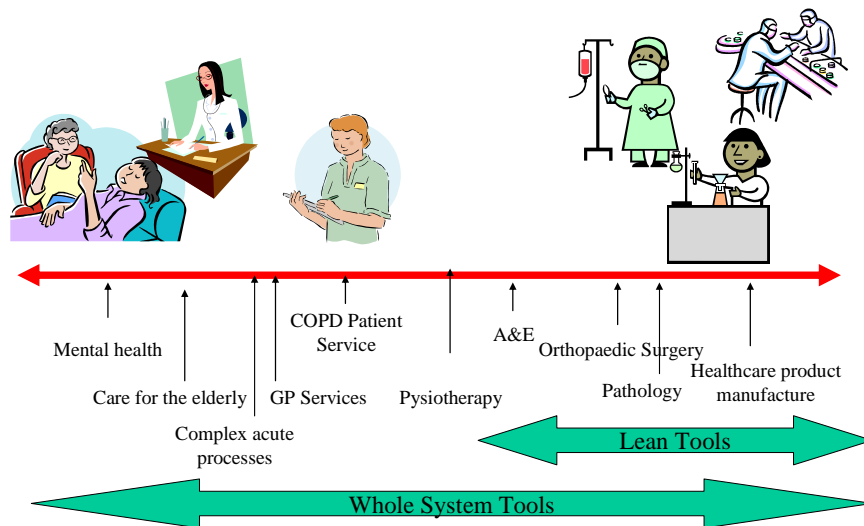
The box outlines the key benefits of Rapid Improvement Events [RIEs]. Whole Systems RIEs offer the potential to deliver major benefits through a rapid and considered process working with key stakeholders within complex services.

The Unique Needs for RIEs in Complex Healthcare Services

When undertaking system improvements it is important to understand first the fundamental nature of the system being addressed. Currently RIEs in the NHS are taking place in the more well-defined clinical areas such as pathology and A&E departments within hospitals, with high volume, relatively linear, factory-like workflow processes.

Community services such as mental health services, long term conditions management and other primary care teams, together with the more complex acute patient processes in hospitals, offer a very different environment. Patients tend to come in with a broad spectrum of symptoms and needs. Every consultation is different. Processes are not simple, predictable and linear. Some patients need reassurance and listening to, some need directive advice and changes in medication. Long term conditions are as much affected by the patient's social and mental condition as their physical one. Patients who are depressed or anxious are much more likely to have crises than confident patients. A lot of the clinician's work is building confidence and allaying fears through talking. This makes applying some lean principles, such as standardising processes, a real challenge. The figure below illustrates the continuum of services from a linearity and complexity perspective.

Where on the Continuum?



The Danger of Applying Just Lean Tools in Complex Health Service Settings

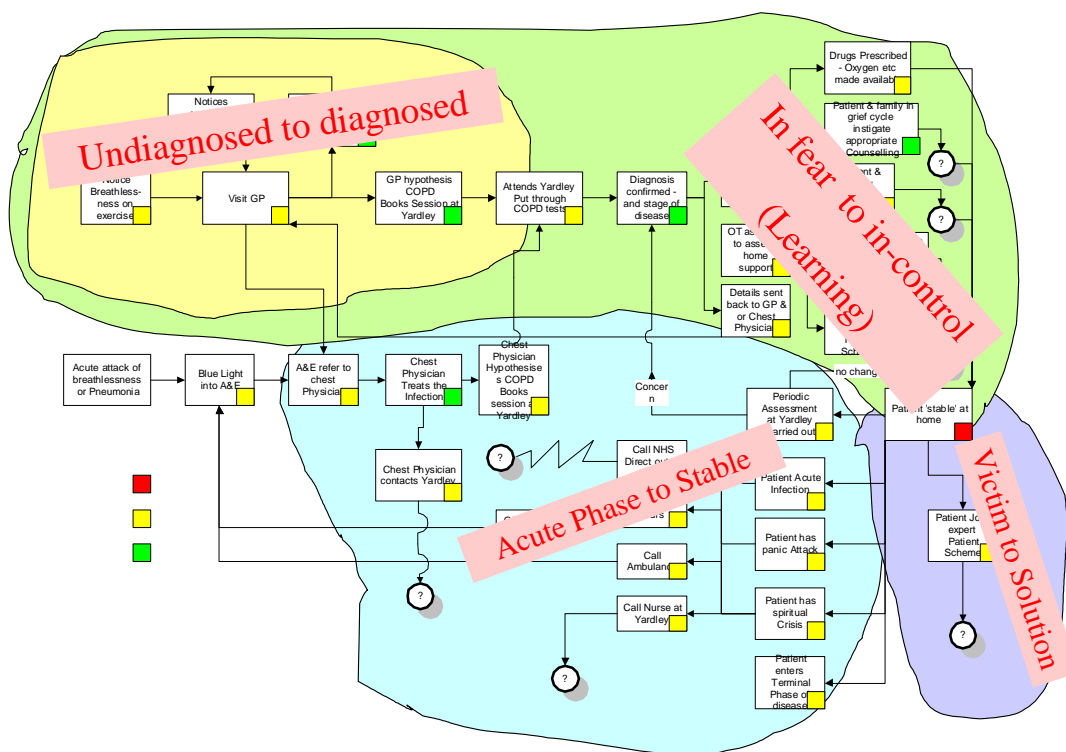
Complex, non-linear healthcare services are of a type where the lean principles apply but not necessarily all the lean tools.

- The key steps in the 'value chain' of the system are not like simple mechanical activities at workstations but complex patient transformations. COPD services have been mapped as an outline example. Within these services we can see transformations such as: a) undiagnosed *to* diagnosed; b) in panic *to* in control; d) in an acute phase *to* back in control etc, e) unstable at home *to* stable/improving living patterns; f) being victim *to* becoming part of the solution (the Expert Patient Programme) etc.

- These transformations can:
 - Take place over a number of sites
 - Involve different professional groups co-working around the patient
 - Be extended over time
 - Require the patient and their family to participate and own the process rather than just accept what is done to them by professionals.
 - Take varying amounts of time and resource depending on the physical, mental and spiritual state of the patient at the start and their capacity to engage with and respond to the process.
- Concepts like ‘takt time’ (having a fixed common average process cycle time for a patient at each process step) are difficult to apply because patient demand cannot be artificially smoothed and then processed to order. There may be a high-level statistical averaged demand and seasonal trends, but essentially demand is driven by the complex and immediate need of the patient. The system dealing with this reality needs to have capacity, capability and flexibility in its response and so be capable of behaving more organically.
- Importantly, though these transformations can be described and traced separately, each patient will present with different mix and degree of them in each episode in their journey and at different stages of their journey. Each patient will be different from the others on similar journeys.
- The key measures (KPIs) of such a system need to be output related (measuring effective patient transformations) and not activity based (which does not distinguish between necessary and unnecessary activity).

However, some parts of these complex non-linear systems at the process level may actually be linear and factory-like. These might be areas such as running standard tests, or processing patients through a standardised series of interventions post diagnosis. These need to be capable, standardised processes run just-in-time and right-first-time. Lean tools are then very useful.

Whole Work Map for COPD services



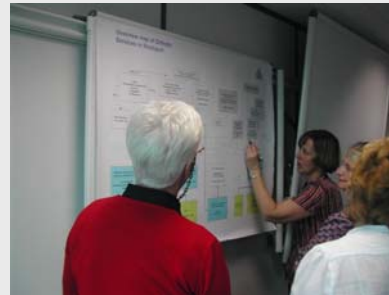
Tricordant Lean Whole Systems Case Studies

Full case studies are available for download at <http://www.tricordant.com/insp05.htm>.

Earlier this year Stockport PCT were quick to take up an offer to host two demonstrator Lean Whole System RIEs (Rapid Improvement Projects) within a PCT environment. Gillian Frame, their Director of Provider Services, then asked Tricordant to facilitate two projects, each culminating in RIE workshops, one reviewing their 'Contraceptive and Sexual Health Services' (CASH) and the other their Orthotics Services, which is delivered in partnership with the local Acute Trust.

Both projects used the following structure:

1. Planning day to scope the project and agree dates
2. Interview of staff across the area as system representatives
3. Identify system boundaries, gather data, prepare a system map and confirm the workshop design
4. Rapid Improvement Workshop 1: with representatives of the whole system in the room, start to build the team, analyse the system as a whole, and agree a vision for the service
5. Rapid Improvement Workshop 2: review the vision, work on the whole system organisation design for the future, and confirm the actions required
6. Support the team to document and justify required actions
7. Post-event review.



Both projects were completed over an 8-10 week period. The investment required for such projects was £15k—£20k. By the end of Tricordant's involvement we had:

- Helped the people in the parts of both services see themselves as part of their wider 'whole systems'
- Identified and agreed a vision for each service supporting future growth
- Identified opportunities to increase the productivity and enhance the service levels
- Created an action plan for the improvement of the services
- Listed and started to quantify the potential cost benefits. In the case of the CASH project for example the savings and avoidable costs identified added up to £152,000 p.a.

Quotations afterwards from Stockport PCT managers:

"Tricordant's approach gave the PCT a way to make a rapid difference to the two services we targeted, 'Orthotics' and 'Contraceptive and Sexual Health'. Within weeks the people from across each service network had come together better as a team, understood the complexity of the bigger picture, developed their vision and reviewed their strategy and structure. Action plans were quickly in place, cost savings identified and the teams were starting to implement the necessary change. It's an approach that picks up an area, pulls it together and gets the energy flowing again." **Gillian Frame, Director of Provider Services, Stockport PCT.**

"It was a great process! It was really good to bring so many stakeholders together to think about our contraceptive and sexual health service – and really helpful that you were able to meet them beforehand and understand our system. The shared vision and commitment we developed have propelled us forward in to real change." **Lucille Fifield, Associate Director - Children and Families Division, Stockport PCT.**

"I was unsure about the review before we started. But it was really stimulating and useful. You helped a range of clinical and managerial staff step back and understand our service with a fresh perspective. From this we now have a common vision and can work much better together to make it happen. This is good news for our patients and staff." **Dr Tessa Malone, Consultant and Clinical Director, Contraceptive and Sexual Health Services, Stockport PCT.**



What is Really Needed in Complex Health Service Settings?

Healthcare services at the complex end of our continuum require an approach that can:

- Understand the true purpose and full aims of the complex, non-linear patient service being reviewed
- Understand its intrinsic nature, different mental and physical aspects, rhythms and dilemmas
- Map the key patient transformation pathways within this
- Apply whole systems principles and tools to:
 - understand the units of work that deliver these key transformations
 - build empowered teams to plan, deliver and improve each of these units of whole work
 - ensure the teams are on a human scale and have appropriate leadership
 - ensure supporting work is done at the right organisational level, pushed down as close to the patient interface as possible
 - design appropriate performance measures and control processes
- Apply Lean tools to those parts of the system that are linear, factory-like processes where they occur
- Support and monitor the implementation and ensure follow-through.

Tricordant's Approach to Whole Systems RIEs

Tricordant Limited is a specialist consultancy with particular knowledge and experience of the NHS. Our expertise is in 'whole systems' organisation development (OD) and Lean principles, including rapid improvement interventions. Our approach to whole systems is centred on our unique Tricord™ model and a range of supporting whole systems and lean tools which are described on our web site at www.tricordant.com. We can help local health professionals make fundamental improvements to their full range of patient process from those with simpler, linear patient flows to those which are complex, non-linear patient services, delivered across multiple-organisations and in the community.

Tricordant has worked on a wide array of NHS whole systems organisation design and development projects as described on our web site at www.tricordant.com. These are a mix of classic consultancy projects and rapid improvement workshop-based projects. Recent health clients include: NHS Institute for Innovation and Improvement, NHS London, Bexhill & Rother PCT, Beds and Herts SHA, Waitemata District Health Board, New Zealand, East Berkshire PCTs, Norfolk Suffolk and Cambridgeshire SHA, Essex SHA, Surrey and Sussex Healthcare Trust, Stockport PCT, Tameside and Glossop PCT, Royal Berks Hospital, Queen Victoria Hospital and the Sussex Partnership Trust. We are an approved supplier with the NHS Institute.

Next Steps

Many healthcare services are non-linear, complex, patient-centred services. Tricordant is unique in its understanding of the mix of whole systems and lean principles and tools that are applicable in these particular circumstances. We believe the Tricordant approach to the rapid review and improvement of complex healthcare services offers Trusts and PCTs a unique and cost-effective opportunity to rapidly improve service quality and performance.

If this paper has interested you then please contact: Alastair Mitchell-Baker, Director – Health Care Sector, Tricordant Ltd. Mobile; 07775 684868, Office: 0118 9426826, Email; alastair@tricordant.com.

Note about the authors

Tricordant approaches Rapid Improvement Events in Healthcare from the depth of experience of its Directors. Alastair Mitchell-Baker brings in-depth experience of running healthcare systems, including as an acute trust executive director, chief executive of a mental health/community trust and project director of major strategic reviews. Simon Thane brings 13 years of Lean Systems practice with Lucas and Sony, having started as an internal consultant designing and implementing lean factories and ending up running a lean factory for a Japanese joint venture employing 2000 people supplying Toyota and Honda. This creates a team with a unique ability to understand the issues around improving community healthcare services, the handling of non-linear whole systems and applying the right range of tools to achieve effective outcomes.