



Embedding organisational analytical capability: improving flow on inpatient stays

The service-level benefits of integrating data and analytical capability at all stages of improvement programmes to improve inpatient flow, and the longer-term cultural and system-level changes needed to realise the full potential of this. See also the Lean improvement MOOC case example, for a different angle on improving inpatient flow, and the local system collaboration example, for building system-level data and analytical capability.

What is the project?

- Sygal Amitay is Principal Analyst, Information and Insight Department, embedded within the Improvement and Transformation Team at Nottingham University Hospitals NHS Trust. She delivers analytics as part of a Quality Service Improvement and Redesign (QSIR) methodology to improve flow for inpatient stays and streamline discharge processes – improving productivity and experience, and increasing hospital capacity to address challenges around backlogs in care.¹ ‘The approach is for improvement, operational and clinical leads to work together to come up with an understanding of what needs doing, all data supported.’
- This embedded analytical capability ensures that improvement projects can be supported throughout their lifetime: ‘from the gap analysis and understanding the opportunities; understanding the service status quo; designing the measurement plan and delivering it; and finally understanding if the approach worked, why and how’. Analytical products that directly support the improvement project, such as online patient management tools or ‘knowing how we are doing’ (KHWAD) insight and reporting tools, give consistency and clarity around conversations on improvement at all levels.

- Sygal spoke with fellow Q member Sophie Bulmer to share perspectives on using data to drive improvement.

What were the challenges? How did they overcome them?

Accessibility of the data needed to inform improvement.

‘The problem isn’t that we don’t have data. [It’s] that they aren’t organised in a way that helps people to get actionable insight’, a challenge echoed by other Q members.² Through the Qlik Sense platform they combined information from previously separate data and IT systems and made it available in accessible reports, to give teams a better picture of what’s happening.

The lack of joined-up system-level intelligence.

Access to data from outside their organisation remains an issue.

“Most [discharge] problems are at the interface between hospitals and social care.”

One project improved flow through the specialty: it shortened every bit of the patient journey, but didn’t result in an overall improvement as safe discharge was not possible due to lack of capacity in social care at the time. This issue was compounded by lack of visibility between organisations, and lack of emphasis on collecting

data to better understand delays and bottlenecks. 'There's a huge cultural piece to embed trust between organisations to make people feel... able to share information openly.'

Staff trust in how the data will be used.

Overcoming the perception that data would be used to measure and judge performance – rather than to improve processes – was a challenge the team faced consistently.

"[Staff] always think you're going to just come up with new ways of measuring and telling [them] what to do and what they're doing wrong."

By working collaboratively between clinical and improvement teams to co-design measurement plans and tools, it builds trust that the data is used to improve services.³ At Trust-level, they have a CIO (Chief Information Officer) who helps improve the credibility and visibility of data-driven decision making: 'you need analytical leadership at that level which supports and even highlights the change in culture that is happening'.

What were the results?

Better understanding of the hospital 'as a system'.

Improving the availability and quality of the analytics throughout the project lifecycle is making a difference to how clinical teams can access and use the data for driving improvements in flow. Clinical teams understand objectively what improvements have resulted and are able to share this with others.⁴ Sygal

found that her improved understanding of 'the hospital as a system' and how services work on the ground was both professionally rewarding and invaluable insight when supporting teams to understand and design improvement projects and the accompanying measurement plans and analytical tools.

Lessons for improvers

Embedding analytical capability.

To do more data driven work, you need to work alongside teams at all stages of a project to establish trust and 'make it safe' for staff to engage with the data or ask for help. This also supports staff to feel more ownership of the data and encourages a more rounded understanding of it in context rather than feeling constrained by it, by drawing on the whole team's expertise.

*"A lot of the uncertainty [...] about engaging in QI is people thinking "I should know this and should understand it", but they shouldn't [necessarily]. Engaging with information and analysis on their own – and data by itself – isn't enough... You need the insight from everyone else."*⁵

It is imperative to work more as a local system.

Over and above more internal organisational challenges, a major learning is about the interdependence of different parts of the system. Any realistic efforts to improve hospital capacity by reducing unnecessary delays to discharge ultimately depend on how different areas of the system work together.⁶

Find out more

Sygal and Sophie spoke at Q's [Community Space workshop](#) in September 2021.

Endnotes

- 1 Horton T, Mehay A, Warburton W. [Agility: the missing ingredient for NHS productivity](#). Health Foundation, October 2021.
- 2 See Scott J, Cann H. [Moving past backlogs: how are Q members improving access to services?](#) Q blog, 5 August 2021.
- 3 Nottingham University Hospitals NHS Trust have recently won an award from the Patient Experience Network for their collaborative work using insight for improvement <https://patientexperiencenetwork.org/awards/>
- 4 See the Lean improvement MOOC case example for how this works in practice.
- 5 The Lean improvement example showcases how to build and develop improvement capabilities and upskill in use of data and analysis for enabling improvement, without relying on specific analytical expertise.
- 6 See the local system collaboration case example for how Birmingham and Solihul's Elective Care Hub is striving to do just that.