Thrombolysis in Acute Stroke Collaborative

TASC Case Study
Hampshire Hospitals NHS Foundation Trust

How Hampshire Hospitals increased their thrombolysis rate from 10% to 15.4%

Hampshire Hospitals NHS Foundation Trust wanted to increase rates of thrombolysis for their stroke patients. One hundred thousand people have strokes each year in the UK. Thrombolysis is a disability-saving treatment, but the decision to thrombolyse needs to be made quickly. For every 30-minute delay, outcomes decline by around 10%.

Background to the project

At the Royal Hampshire County Hospital in Winchester, rates of thrombolysis remained low despite several previous quality improvement initiatives. The Trust had taken steps to increase public awareness about stroke symptoms and provided training to the South Central Ambulance Service, whose paramedics could refer directly to the stroke team via a satellite mobile phone. Since the phone was introduced in March 2022, direct referrals increased to 55.6% from 5%. The team had also implemented a direct-to-CT pathway in August 2021, with patients being taken directly to the CT scanner unless they were medically unstable. Following the CT scan, they were taken back to resus for thrombolysis. The team had worked hard to improve stroke recognition within the Emergency Department, upskilling staff with a stroke simulation programme and a thrombolysis training video. The stroke team had created a real-time database capturing all referrals to the service enabling weekly data analysis.

Despite all of these initiatives, between 2020 and 2023 the thrombolysis rate at the hospital remained at 10-11% - well below its target of 14%. One of the main problems was inconsistent decision-making about which patients were suitable for thrombolysis. In particular, clinicians across the team had different ideas about thrombolysing patients with non-ideal characteristics. These included those patients with milder stroke symptoms, co-morbidities, or older patients, as well as those who had surpassed the four-hour window since onset of symptoms.

Aims and objectives

The Hampshire hospitals team wanted to reduce these variations and develop a more consistent approach to thrombolysis among clinicians. They believed that a change in culture, attitudes and awareness was needed.

Joining the TASC programme

In October 2023, Hampshire hospitals joined the Thrombolysis in Acute Stroke Collaborative (TASC) programme, commissioned by NHS England and delivered by NHS Elect. They formed a project team led by Dr Zehra Mehdi, Stroke Consultant and Clinical Lead, and Stroke Physiotherapist Clinical Lead, Steve Williams.

Joining the TASC programme

> **We felt that joining the network would enable us to have more structured conversations about ways to improve our Thrombolysis rates**, with support from its specialist improvement team and the national clinical lead for stroke. It was very helpful. We'd already done a lot of work in improving the identification of stroke symptoms and developed a team of Advanced Care Practitioners at the front door. But the SAMueL data showed that we were much less likely to offer treatment to non-ideal patients compared to other units and this was what we needed to address. By developing a more standardised approach, we would hopefully reduce variations in decision-making.
>
> **Zehra**

> Modelling showed that a realistic target for thrombolysing patients was 14%. We were achieving closer to 10%. That meant around 4% of patients were potentially missing out on an intervention that could reduce or prevent disability and, so, improve their quality of life. **This was significant.**
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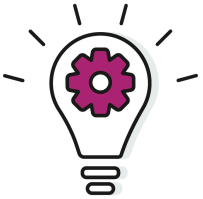
> **Steve**

What they did



1: Introduced red card/green card voting to support better decision-making

The team introduced meetings where consultants would present real-life patient cases and ask their clinical colleagues whether or not they believed the patient was suitable for Thrombolysis. Initially, this proved quite challenging as some consultants felt scrutinised and there was an unwillingness to engage. So instead, the team used 'gamification', turning the discussions into something more light-hearted but nevertheless with serious intent.

The format for the meeting was that consultants present one of their own 'grey' cases without stating whether or not the patient received thrombolysis. After hearing details of the case, the other consultants are invited to vote on whether or not they would have thrombolysed the patient. They hold up a green card to indicate 'yes' they would have thrombolysed or a red card to indicate 'no' they would not. The consultant then reveals what the actual decision had been. A member of the therapy team also joins the meeting to comment on the patients outcomes following the decision made. Then a discussion follows about why others agreed or disagreed with this decision. This approach provided the psychological safety that the team needed to engage in these discussions, enabling them to discuss decisions that had been made under stressful circumstances and to consider the human factors involved in rapid decision making.

> It encourages the clinical team to reflect on the evidence in each case and to consider any possible human factors that might have played a role in the decision-making process – for example, was there anything that might have impacted the consultant's judgment, such as the memory of a previous case, the fact that they were particularly hungry or tired at that time, things like that.
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> **Steve**

The meetings proved so successful that this has now been adopted as part of the regular monthly review of stroke cases. They are well-attended by consultants, resident doctors, therapists, the stroke matron and stroke ACPs/practitioners. The consultants take turns presenting cases and the whole team is fully engaged in the process. Confidence in decision-making has increased, as ACP, Connie Lau explained:

> **Being able to discuss these cases with consultants empowers me and enables me to reflect on my own decision-making.** There is a team discussion about whether or not a patient should be thrombolysed and this helps to improve understanding, increase accountability and enhance communication across the whole team.

The meetings also helped to embed a "phone a friend" culture, whereby a consultant faced with a complex decision about whether or not to thrombolyse can phone a colleague to obtain a second opinion.

Image 1: The Stroke Team using red card/green card voting to support better decision-making

2. Developed the role of ACPs

The Royal Hampshire County Hospital has also developed the role of Advanced Clinical Practitioners (ACP), working at the front door. In July 2024, the Board approved the business case to expand the Stroke ACP team. Chris Sanders explained:

> Previously the hospital had three 'stroke coordinators' in place who had no formal training. **Now we have qualified ACPs and a recently appointed ACP trainee.** The Trust is committed to developing ACPs to be able to practice autonomously, particularly out-of-hours. We are trained to deal with strokes and we work in A&E clerking patients, which supports patient flow within both ED and the stroke service. ACPs can see patients independently, request CT scans, MRIs and angiograms, prescribe and also discharge patients. We can escalate to different specialties without patients having to wait for a medical review. And we now have access to advanced CTP imaging seven days a week.

ACP training is undertaken at a local university, where ACPs complete five modules plus a dissertation. The course is practical and broad-ranging, covering the fundamental aspects of the ACP role from history taking through to diagnostics, pharmacology and research.

Steve said: "Although the development of ACPs was well underway before we joined TASC, the programme provided the opportunity to get all of the stakeholders together to talk about what Advanced Practice has done for the Trust and these open conversations have really benefitted us."

3. Replaced paper clerking proforma with stroke e-clerking

One of the ACPs, Connie Lau, who joined the team two and a half years ago, developed a system of stroke e-clerking to replace the old paper proformas that were previously used for stroke patients. Connie said:

> When I first joined the Trust we used a 20-page booklet to clerk stroke patients. There were some specific SSNAP (Sentinel Stroke National Audit Programme) questions but often these would get skipped. I worked with the IT team to develop an e-clerking tool that works with the electronic patient record. We made the SSNAP questions mandatory, which means we are now able to capture all the information we need and share it with the relevant teams. The system captures data in real time and it is centralised, which means multiple people can access it. It is a much more streamlined process as previously, the stroke data coordinators used to have to spend a lot of time digging through bits of paper to find the information they needed. Also, critical information was often not recorded. For example, with the paper system, the onset time was often recorded as unknown or estimated because it was not mandatory. Between 2021 and 2023, 333 patients had no stroke onset time recorded. By contrast, with the e-clerking system, this is a mandatory question which means this information is now far more accurate.

The e-clerking system took around a year to develop as there was a comprehensive process of modelling, testing, capturing feedback and remodelling. Connie said:

> There was a lot of testing and refining to make sure it was user-friendly and obvious where people needed to put things. There were multiple iterations of the system. A lot of questions are now mandatory, which means the e-form won't save unless the information is filled in. I made a 10-minute video on how to use the new system and why it was developed, which we uploaded onto the immersive learning hub. The majority of people are now using it without a problem. The biggest challenge for some has been the fact that they now have to click through using different tabs, which is quite a change for those who were used to using a paper form. We had multiple conversations and spent time socialising the concept with our colleagues and medical registrars and demonstrating how to use it.

Zehra added:

> **This is one of the team's best interventions over the last few years and it means we get the information we need in an accessible and readable format, ready for our ward round the following morning.**

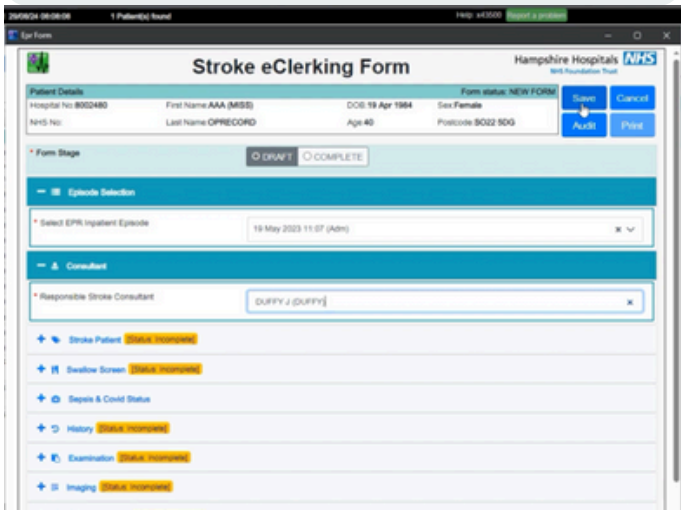
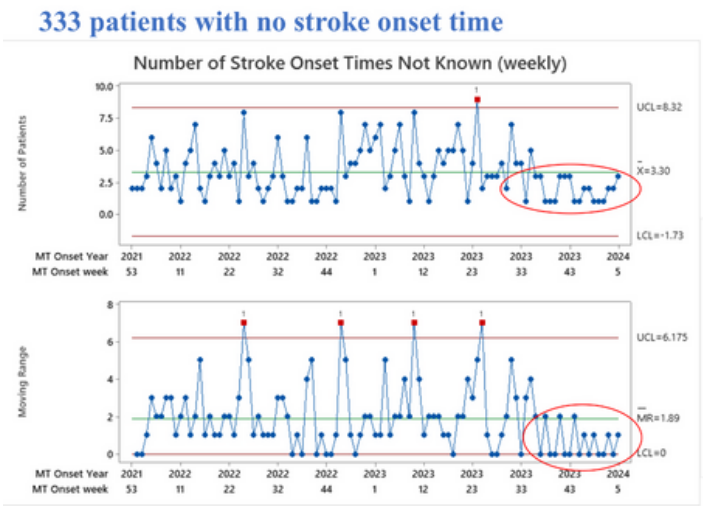


Image 2: e-Clerking Form



Graph 1: Number of patients with unknown onset times

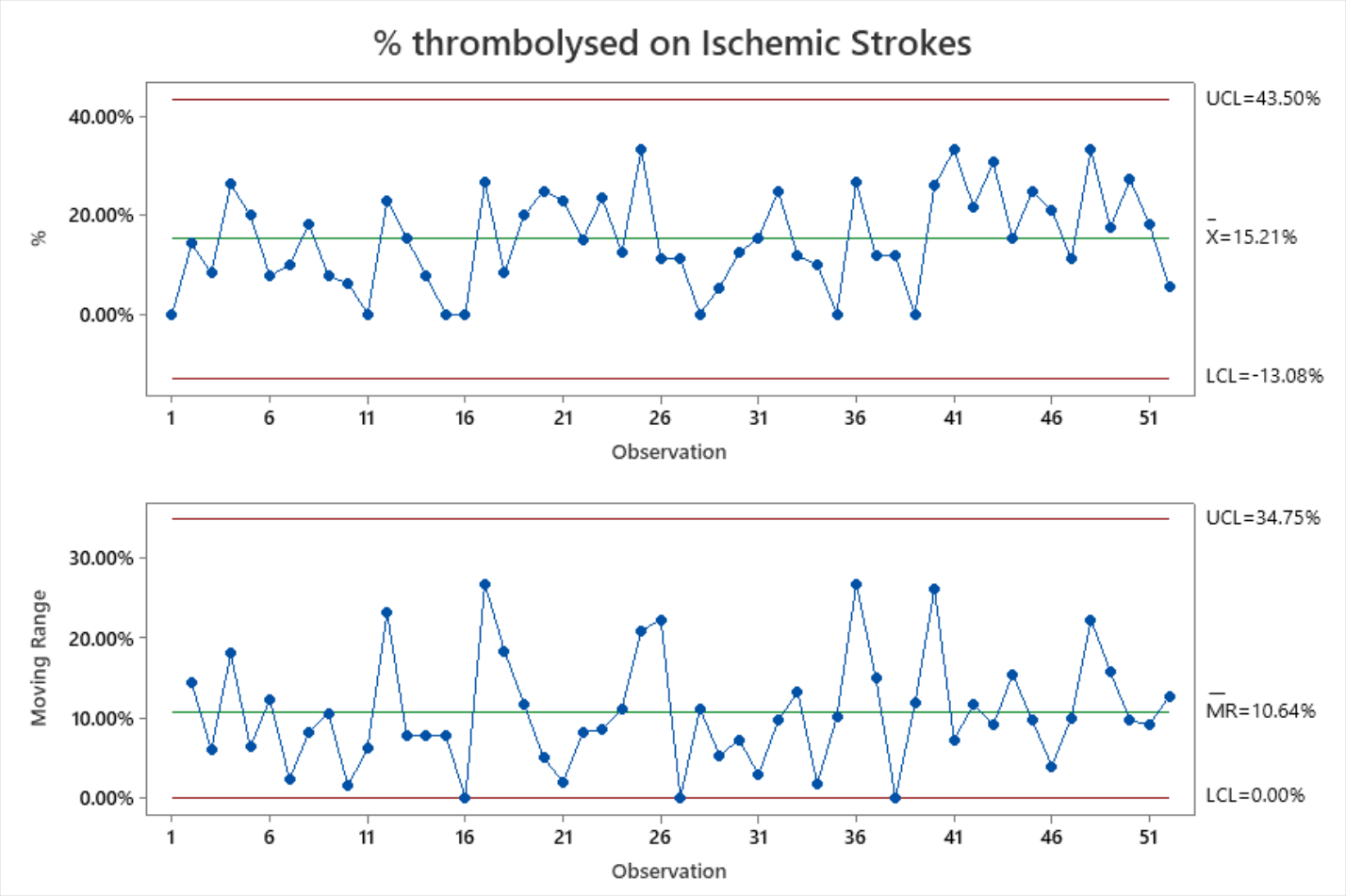
Development and launch of stroke e-clerking in Oct 2023 (image 2)
Directly correlated with an improvement in determining stroke onset times (graph 1)

Support from the TASC programme

The Hampshire team received one-to-one support from the TASC programme through their QI coach, as well as attending webinars and visiting other hospitals who were undertaking similar work. They found the support with quality improvement methodology and data analytics particularly helpful as it provided an insight into the impact their work was having and helped them take a broader perspective.

Impact of the Thrombolysis programme

There is now much greater confidence in clinical decision-making among the clinical team at Hampshire Hospitals and variability is decreasing. Thrombolysis rates have gone up from 10-11% between 2020-23 to 15.4% in 2024. Data is now being accurately recorded using the new e-clerking system, including SSNAP targets, and is monitored weekly using SPC charts.



Graph 2: Weekly percentage of patients thrombolysed showing increase in 2024

> Alongside the quantitative improvements showing an increase in the number of patients being thrombolysed and the accuracy of data recorded, **we are seeing a change in culture**. Our consultants are talking to each other far more about complex cases and there is a culture of open reflection. Confidence levels have increased and this can only result in better outcomes for patients.
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> **Zehra**

Challenges

One of the biggest challenges faced by the team was sustaining its improvement work. It was helpful to have external support and regular touchpoints with the coach from TASC but, nevertheless, the team found it challenging to bring the wider team on board.

> Old habits can quickly creep back in without someone calling them out. However, this means that we are relying on one person to drive change which is not ideal. **It is important to have a clear, national voice talking to the people higher up the Trust.** We benefitted from having a national organisation working with us as it helped us to maintain momentum and keep up pressure on the Trust.
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> **Steve**

What's next?

The team is keen to let colleagues across the Trust know about its work in stroke. They are launching a communications campaign that will include emailing everyone in the stroke team and operational team to let them know about their work and the impact it is having. Outside the hospital, they want to target the four geographical areas where people present with stroke symptoms much later than in other catchment areas. Zehra said:

> There is a 10% difference. We need to talk to people in these areas and ensure they understand what symptoms to look out for so we can start to address this inequality.

Key learning

Zehra offered the following advice to any organisation undertaking a similar piece of work:

> **It's important to get everyone on board and ensure you have the understanding and engagement of your team.** Each person has different needs so one of the biggest potential failings will be if you come up with a generic approach and assume it will work for everyone. It's not 'one-size-fits-all'. You need to understand people's motivations, bugbears, what they find challenging, what drives their decision-making etc. If you do this you can deliver your goals in a more personalised way. Giving directive leadership when it comes to complex decision-making doesn't work; everyone has a different idea about risk-taking.

> You need to shout about stroke within your organisation; you are the only ones who can advocate for your patients. **Tell colleagues about your service, celebrate the wins, talk about the good and the bad.** Once you've established a reputation people are more likely to listen and be on your side. Go and meet your execs, medical director and CMO. I booked in meetings with each one of them when they took up their roles and that definitely helped. Also, know your data because it's powerful. It's what shows that a change is needed. Without it, there is only anecdotal moaning. Data enables conversations and helps to drive concrete change."
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> **Zehra**

Questions?
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