

TASC Case Study

Torbay and South Devon Foundation Trust



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How Torbay & South Devon Foundation Trust increased their thrombolysis rate from 8.24% to 14.33%

Torbay and South Devon 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 thrombolysed needs to be made quickly. For every 30-minute delay, outcomes decline by around 10%.

Introduction

Torbay and South Devon Foundation Trust (TSDFT) serves a resident population of approximately 286,000 people, plus about 100,000 visitors at any one time during the summer holiday season. TSDFT sees over 78,000 people in the A&E department annually.

Compared to the England average, Torbay had a higher proportion of all age groups over the age of 50. Future increases in the population's average age are a result of the increases in the over 65 population, making this a retirement area. Most of the residents within Torbay and its surrounding area are white British, with 5% covering other ethnicities.

In 2019, Torbay was ranked as the 38th most deprived upper-tier local authority out of 151, and the 48th most deprived District out of 317 districts across England.

Since 2018, TSDFT has had 607 patients (average per year) attend with a stroke, requiring review and treatment. Of these patients, 565 (average per year) were admitted and 56 (average per year) were thrombolysed.

TSDFT, confirmed via the Sentinel Stroke National Audit Programme (SSNAP) data, thrombolysed 9.2% pts on average per year, compared to the 11.8% National average for the same 5-year period.

Whilst the Trust's current thrombolysis data sat just below the national average, it was by no means the lowest. However, there was a recognition that improvements need to happen within the trust stroke services, and the opportunity to participate in this collaboration provided the appropriate level of input and support to achieve this.

It was also recognised that in working towards improving thrombolysis rates, the profile of stroke would be raised as a whole, and subsequently improvements would be achieved in other areas of the pathway, such as "time to scan", and "time to be seen by a stroke clinician".

Improving Thrombolysis times was a challenge. With 2.9 WTE Consultants covering 09:00–17:00 Monday – Friday plus GIM on-calls there was a reliance on the Medical Registrars to deliver thrombolysis out of hours supported by ED colleagues. The team also had Specialist Stroke Nurses supporting the hyper-acute elements of our pathway, but until recently vacancies meant maintaining the rota 08:00–20:00 7-days/week had been challenging.

They engaged with the ISDN to scope the potential for a networked approach out of hours to support thrombolysis. The team felt that being part of TASC would support their improvement journey by helping them identify and work on the opportunities that were within their control to address and improve.

Data for period April–June 2023 reported 8.9% of patients received thrombolysis, compared to 11.6% nationally and 9.3% regionally

The stroke team wanted to increase rates of thrombolysis for their stroke patients.

Joining the TASC programme

In October 2023, Torbay and South Devon NHS Trust 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 Lesley Wade and John Frances

What they did

Agreed on the aims, and then the following actions occurred

- Initially reviewed patients who had been thrombolysed to review processes, timings and identify any delays.
- Completed two in-depth reviews of patients who did not receive thrombolysis and were considered eligible. This was completed alongside the SAMuel Tool to benchmark against the top thrombolysing sites.
 - First review patients identified by NHS Elect Measurement for Improvement Analyst based on eligibility and timings.
 - Second review of patients identified by NHS Elect Measurement for Improvement Analyst. This cohort had a higher mRS and lower NIHSS score than the site typically treats with thrombolytic therapy.
- This review and detailed data analysis identified good door-to-scan timings and time of onset.
- The reviews identified good arrival to scan times even if the patient arrived out of hours, but a delay in reporting and a suspected lack of confidence in some cases regarding decision making, especially in registrars
- The consultant team also identified that they were rarely called for decision support by the registrars, either in-hours or when they were the GIM on-call consultant
- Implemented monthly thrombolysis meetings; these are now twice monthly. Discussions around thrombolysed and non-thrombolysed patients to prompt discussion, constructive challenge, and share learning.
- Aligned focus with shift in mindset to be “why not thrombolyse?” rather than “shall we thrombolyse?”
- Line management of trainee ACP in Acute Stroke, and a development plan was implemented.
- Ongoing breach analysis against the four-hour to stroke unit target to identify process issues for targeted action.
- Reviews of all thrombolysed patients each month to identify any delays in the process that could be improved through targeted action.

What we achieved (the outcomes/data)

- The average thrombolysis rate per week since a step change in May 2024 was approx. 15%. This then improved to 18% up until the end of September. This was recognised by the local ISDN as the highest in Devon and Cornwall.
- Since this time rates have varied October – Dec 2024 improved again to an average rate of 19.3% but January to February dipped to an average of 9.8% alongside lower stroke admission rates.

What actions did we take:

- Further development of SIM training for Registrars to support decision making and increase confidence.
 - Registrars are encouraged to contact the Stroke Consultants within hours for decision-making support.
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Aims and objectives

The Torbay team wanted to achieve a thrombolysis rate of 13% or higher which is considered realistic based on the local demographic by March 2025, alongside a reduction in the current door-to-needle time of 80 minutes.

The objectives were to increase the thrombolysis rate by:

- reviewing the Stroke pathway and processes to examine where change may lead to an improvement to:
 - o improve pre-alert mechanisms
 - o enable prompt initial assessment and opportunity/access for scan
 - o increase ability and confidence/competence to review scan results in combination with AI
 - o increase confidence/competence from clinicians at all levels, in making decisions to thrombolys
 - o increase speed to patients receiving thrombolysis
 - o increase the percentage of patients receiving thrombolysis
 - o make Improvements to the percentage of patients who are directly admitted to a stroke unit and who spend at least 90% of their stay on a stroke unit
- work together to speed the number of patients receiving thrombectomy when deemed clinically necessary

Background to the project

The Trust sees approx. 650 stroke patients a year, with 1-2 patients presenting a day. Data analysis at the time suggested they should plan for 10-15 Strokes a week. Latterly, this has risen to a suggested plan for 16 per week (a decrease of 4 patients per week, compared to March 23 – March 24 period)

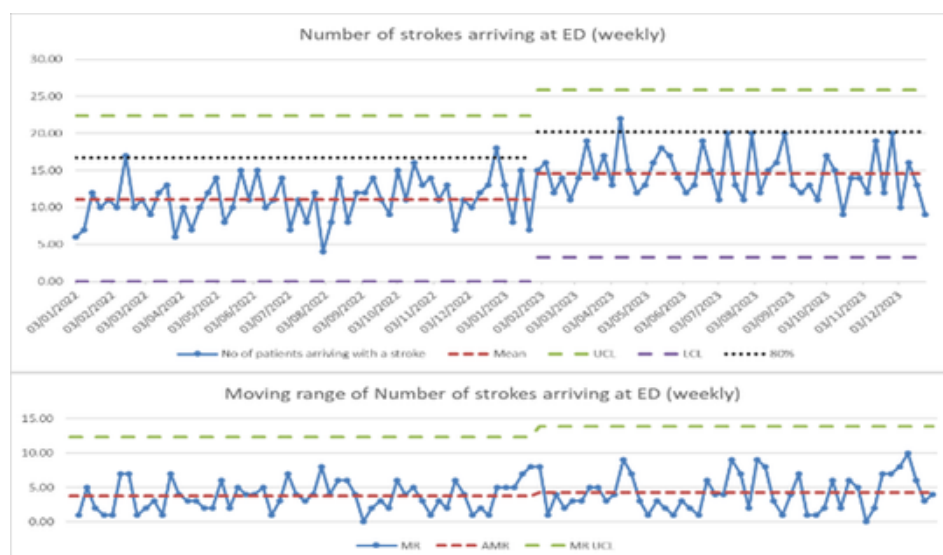
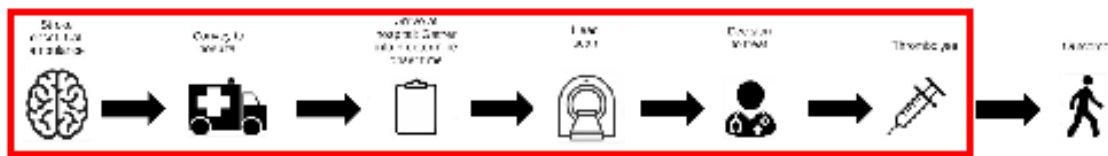
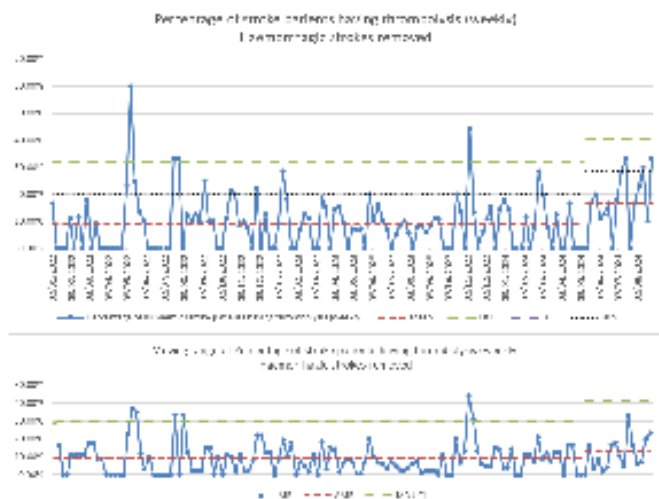


Chart illustrating number of strokes



Percentage of Ischaemic stroke patients having thrombolysis (weekly)- Haemorrhagic strokes removed



Pre middle third recalculation

	% of patients
Average	8.64%
UCL	32.18%
80% Variation	20.41%
Average MR	8.85%

Middle third recalculation

	% of patients
Average	18.01%
UCL	41.55%
80% Variation	29.78%
Average MR	12.46%

- The average thrombolysis rate per week since step change is approx. 18%
- This may vary by approx. +/- 13% per week
- Most weeks (80% variation) no more than 30% of patients will receive thrombolysis

Chart 2 - Percentage of patients having thrombolysis

Median door-to-needle time between October and December 2024 was 77 minutes; median time in January and February was 72.5 minutes. Twice-monthly thrombolysis meetings continue to take place, with attendance from the medical registrar and stroke nurse team. Anecdotally, the consultant's report is being approached more frequently by registrars for advice and having proactive discussions when the potential for learning re: decision is identified.

Support from the TASC programme

The Torbay & South Devon team received one-to-one support from the TASC programme through their QI coach, as well as attending network events, webinars and visiting other hospitals who were undertaking similar work.

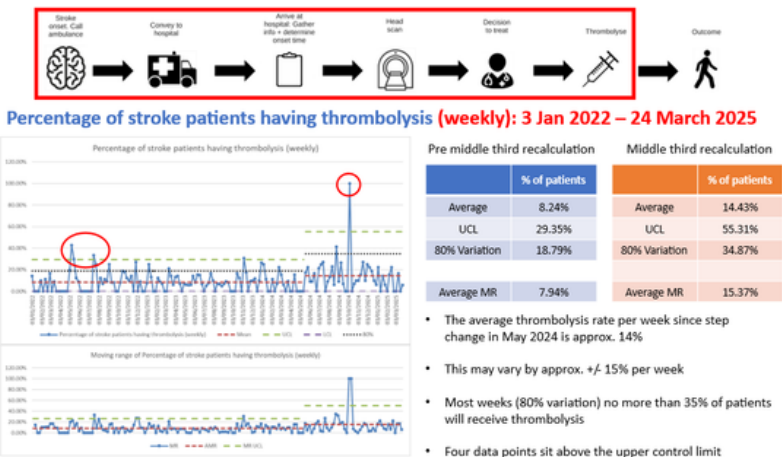
They found the support with quality improvement methodology and data analytics particularly helpful as it provided an insight into the impact their work was having and helped them take a broader perspective.



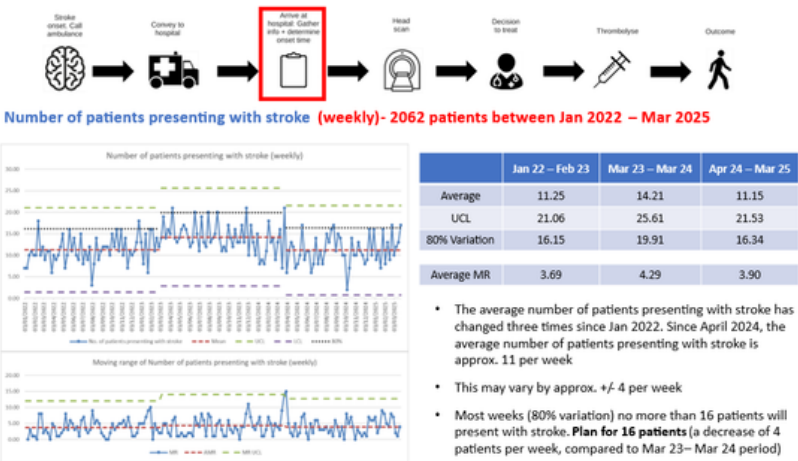
Impact of the Thrombolysis programme

“ The support from the TASC team was amazing & has extended beyond our time on the improvement programme. It helped us understand where our challenges were and really served to bring a focus to the thrombolysis pathway. The support from the measurement team was amazing; we can now use our own data to help support targeted improvements in real time. As a result both our thrombolysis and thrombectomy rates improved. The real challenge starts now; that is trying to maintain those improvements for our patients”

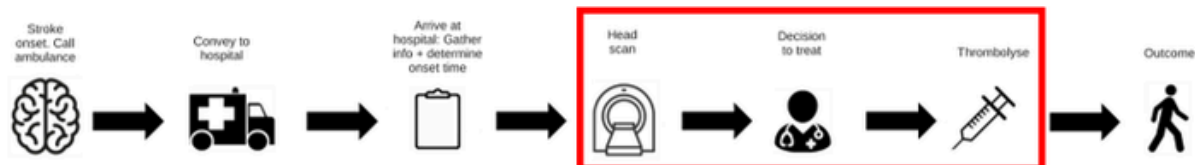
Lesley Wade, Senior Operational Manager



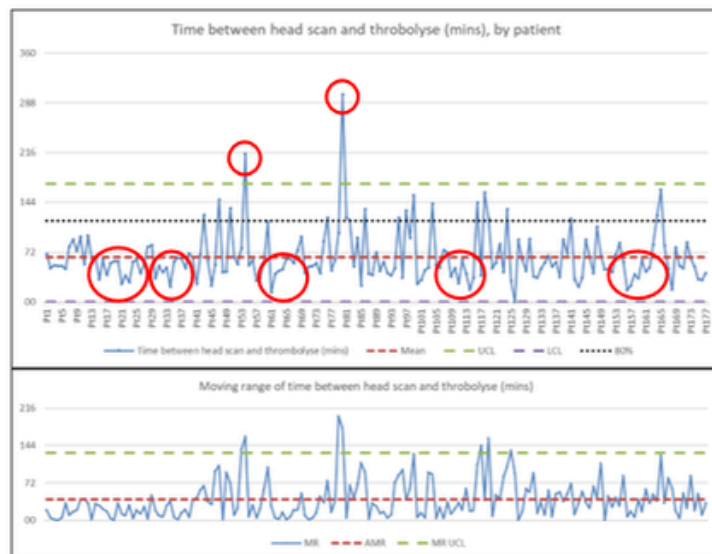
SPC chart – average rate weekly



SPC chart showing number of strokes per week



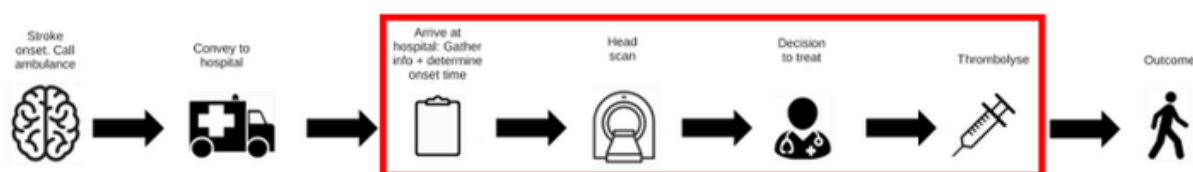
Time between head scan and thrombolysse (mins), by patient – 177 patients



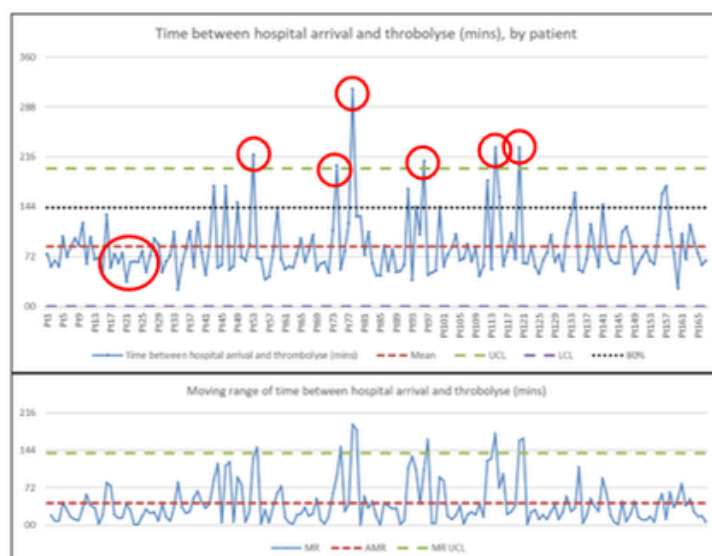
	Mins
Average	64
UCL	170
80% Variation	117
Average MR	39

- The average time between head scan and thrombolysis is 64 minutes
- This may vary by approx. 39 minutes
- Most patients (80% variation) will take no longer than 117 minutes between head scan and thrombolysis
- Over the past 2 years you have had five runs of 7 to 15 patients in a row where scan to thrombolysis time was unusually quick (below average)
- Two points above the upper control limit

This SPC chart measures time between scan and treatment



Time between hospital arrival and thrombolysse (mins), by patient - 167 patients



	Mins
Average	86
UCL	199
80% Variation	142
Average MR	42

- The average time between hospital arrival and thrombolysis is 86 minutes
- This may vary by approx. 42 minutes
- Most patients (80% variation) will take no longer than 142 minutes (2.4 hrs) between hospital arrival and thrombolysis
- There was one run of 11 patients where their hospital arrival to thrombolysis time was unusually quick (below average)
- There were 7 points above the upper control limits

This chart shows time between arrival and treatment

Challenges

- Medical Staffing was a challenge as the Trust had vacant Consultant Roles.
- To change the culture from; 'can we thrombolyse?' to 'why wouldn't we thrombolyse?'
- To demonstrate effectiveness across the region.
- Depletion of Specialist Nurse Team meant nurse leadership of the pathway was affected.
- Developing the case for the role of Advanced Clinical Practitioner in Stroke.

What's next?

- Continue to improve
- Strive to increase substantive staff numbers
- Develop and implement trainee ACP role in Stroke
- Continue to improve and sustain this over time
- Sustaining improvement; all changes made continue to be implemented
- Continue to reduce door to needle time:
- De-coupling plain CT & CT angio reporting – to speed up proceeding with thrombolysis
- Peninsula Acute Sustainability Programme (PASP): University Hospitals Plymouth (UHP) aiming for 24/7 MT.
- Further discussion re: collaborative Thrombolysis support
- Working on CTP regionally

Key learning

- Continue on a journey of Continuous QI
 - Do not become overwhelmed by the huge task– focus on one thing at a time rather than trying to eat the whole elephant at once!
 - Creating a dashboard showing weekly SPC are useful to show direction of travel
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L-R: Fritzie Beazley, Specialist Stroke Nurse; Sam Seymour, Matron for Stroke; Dr Helen Harris, Stroke Consultant; Lauren Hard, SSNAP Co-ordinator; Ashley Armitage, Practice Manager; Dr John France, Dr Biju Bhaskaran, Stroke Consultant; James Hobbs

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