

Miss Laurinda Bower

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1st September 2021

Dear Miss Bower,

**Re: Regulation 28 Report to Prevent Future Deaths – Morris REDDINGTON
Date of Death – 29th October 2019.**

Thank you for your Regulation 28 Report to Prevent Future Deaths (hereafter “report”) dated 21 May 2021 concerning the death of Mr Morris Reddington on 29TH October 2019. Firstly, I would like to express my deep condolences to Mr Reddington’s family.

Your report concludes Mr Reddington’s ’s death was a result of:

- 1a) Brain Stem& Cerebellar Infarction
- 1b) Basilar Artery Thrombosis & Dissection of the Right Vertebral Artery
- 1c)
- II) Systemic Hypertension

Following the inquest, you raised concerns in your Regulation 28 Report to NHS England regarding:

In January 2018, NHS England published its Clinical Commissioning Policy on the use of Mechanical Thrombectomy as treatment for adult acute ischaemic stroke (all ages). The aim of the Policy reports to be two-fold; to improve outcomes for adults with stroke, and to improve access to mechanical thrombectomy as soon as possible after the onset of stroke symptoms.

Despite the publication of the policy some 3 years ago, there remains very limited access to 24/7 mechanical thrombectomy. Save for four Trusts in London, and the West Midlands Network, I am not aware of others providing a 24/7 service. There certainly is no 24/7 service in the East Midlands. There is clear geographical disparity in the access to this vital, life-saving service.

Mechanical thrombectomy would likely have avoided Mr Reddington's death. Instead, because Mr Reddington was unfortunate enough to suffer a stroke outside of the service's operational hours (Monday to Friday 8am to 4pm), his family were left to watch his deterioration, knowing that a treatment had the potential to save his life, but that such treatment simply was not offered after 4pm. This is a situation that no family ought to be placed in.

NHS England and Improvement National Specialised Commissioning team wish to provide the following response:

Basilar artery thrombosis is a devastating form of stroke with very high rates of mortality and morbidity. Mortality is above 85% without recanalisation therapy (thrombolysis and thrombectomy) and just below 40% if recanalised (the process of restoring flow to or reuniting an interrupted channel of a blood vessel). Of those that have recanalisation therapy 30-35% have a good functional outcome. Basilar artery strokes account for only 1% of all stroke and presentation is extremely non-specific, making diagnosis difficult¹. Unfortunately, CT scan is notoriously poor at evaluating the brain stem and identifying basilar artery thrombosis. As well as this, there is no large-scale study to determine the treatment window for basilar artery thrombosis nor has demonstrated statistically significant benefit from MT when compared to standard medical care. NICE guidelines² 2019 confirms that MT should however be considered for such patients.

Background

NHS England and Improvement Specialised Commissioning commission mechanical thrombectomy for acute ischemic stroke, which can significantly reduce the severity of disability³, there is not yet enough evidence to suggest it reduces mortality. It involves the surgical removal of a blood clot in an artery, by an Interventional Neuroradiologist who is a senior doctor. It is used to treat some strokes caused by a blood clot (ischaemic stroke) and aims to restore blood flow to the brain. The group of patients that are likely to benefit from a thrombectomy are those with proximal (central) occlusion of the internal carotid or middle cerebral arteries who present early after the stroke before there is irreversible damage to the brain. These patients, often with extensive thrombus, are much less likely to respond to the conventional intravenous thrombolysis and more likely to experience severe disability. Around 40% of ischaemic strokes are caused by a large artery occlusion. The National Programme ambition is to develop robust and sustainable pathways and to increase coverage over a 24/7 period.

The implementation of thrombectomy is now in year 4 and is part of a multi-year development programme to establish 24/7 access to the entire population in England, this involves establishing a service in at least 22 of the 24 neuroscience centres across England with potential to expand into a selection of standalone units in regions where access and geography are significant challenges.

¹ [Basilar Artery Thrombosis - StatPearls - NCBI Bookshelf \(nih.gov\)](#)

² <https://www.nice.org.uk/guidance/ng128/chapter/Recommendations#pharmacological-treatments-and-thrombectomy-for-people-with-acute-stroke>

³ [d04-mechanical-thrombectomy-for-acute-ischaemic-stroke-v2.pdf \(england.nhs.uk\)](#)

Our overall ambition is to establish a service in at least 24 centres, this may not mean 24/7 in every single centre but there will be 24/7 access for every single patient who could benefit from the treatment. Currently there are 5 centres in England providing 24/7 thrombectomy services, there are 8 centres providing extended hours, which in most cases include weekend and early morning and evening hours, but not overnight, and 9 services provide a 9-5, weekday service. The programme is supporting the establishment of the service in two standalone centres that are in the planning and development stage of establishing a service. In early 2020, the total number of thrombectomy had reached an annual target level of 2,500 but this decreased during the first wave of Covid-19. Since then, activity has now returned to pre-pandemic levels. The total number of thrombectomies performed in 2020/21 was 1,738. The Long-Term Plan has a target of 8000 thrombectomies by year 6 (2023/24). It is expected that by the end of 2022 40% of this target will be achieved.

Policy interventions

As well as the above, the national thrombectomy programme is focussing on the following five priority areas that will support the expansion of thrombectomy services;

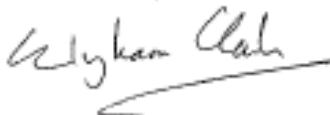
- **Revenue and capital funding** There are sufficient financial revenue within the programme to support all services to deliver 24/7 thrombectomy pathways. This has been allocated to incentivise services to expand and support their referral pathways. There is a bid in preparation to secure capital funding for additional equipment which will support services to further improve their scanning machines and angio-suites, where a thrombectomy is performed.
- **Accountability and responsibility;** in 2020/21 NHS England has invested in 20 Integrated Stroke delivery Networks (ISDNs), that have prioritised thrombectomy improvements within their operational plans. Developing and establishing clear stroke management pathways will ultimately improve access to thrombectomy. Improved access to thrombectomy has been agreed as an Integrated Care Systems (ICS) priority and remains a high priority for the NHS overall.
- **Pathway optimisation;** The National Stroke Service Model (NSSM) ⁴was published in May 2021, with a focus on hyper-acute stroke care, including thrombectomy, to support service development and optimise existing services. Further improvements of services will address the health inequalities gap across the stroke pathway and ensure 24/7 access for the entire population. The NSSM highlights the need for access to appropriate imaging and 24/7 emergency intra-hospital thrombectomy transfer pathways which must be in place for all Acute Stroke Centres. The thrombectomy programme is undertaking extensive mapping of current use of Artificial Intelligence (AI) solutions across stroke pathways which is used to support rapid decision making and speed up the transfer of essential brain scans from a stroke unit to a thrombectomy centre. This work will lead to an ISDN level implementation strategy to support the widespread rollout of this technology.

⁴ [national-stroke-service-model-integrated-stroke-delivery-networks-may-2021.pdf \(england.nhs.uk\)](#)

- **Workforce:** The workforce deficit is that there are currently not enough clinicians who are able to perform a thrombectomy. This is one of the key contributory factors to being able to rollout the programme at a more rapid pace. In England, a thrombectomy is performed by an Interventional Neuroradiologist and currently, there are approximately 86 (whole time equivalents). It is estimated that around 150 will be needed to deliver 24/7, sustainable services across England. Since January 2021 the Stroke programme has been engaging with the General Medical Council and Royal College of Radiologists to support the development of a thrombectomy credentialing programme to support non interventional radiologists, such as neuro surgeons, radiologists and cardiologists to be trained and supported to perform thrombectomy and address the workforce gap.
- **Data gaps:** a lack of robust linked data has presented a challenge in ensuring a detailed understanding of provision of thrombectomy and the essential components of the referral pathway. The programme now has access to more detailed linked data and is working with the stroke national audit programme to pilot a thrombectomy dataset that will collect data that will better support ongoing transformation and expansion of services.

Thank you for bringing these important patient safety issues to my attention and please do not hesitate to contact me should you need any further information.

Yours sincerely,



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Medical Director for Professional Leadership and Clinical Effectiveness
Lead Medical Director for Covid-19 Medical Workforce Cell
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